

Julián Méndez Dosuna
 University of Salamanca (Spain)
 mendo@gugu.usal.es

DECONSTRUCTING 'HEIGHT DISSIMILATION' IN MODERN GREEK DIALECTS

Abstract

A phonetic process of height dissimilation is universally admitted for Modern Greek. In this paper I review critically the data in modern dialects which, at first sight, seem to provide irrefutable evidence for height dissimilation. On closer inspection, the evidence for height dissimilation turns out to be illusory. In actuality, height dissimilation is a mere artifact of reconstruction which fails to match any universal process type and lacks any real phonetic motivation either synchronically or diachronically. Synizesis (glide formation) gives a more satisfactory explanation: i.e. [eo] > [ɛo] > [jo] with non-syllabic [ɛ] turning into an optimal [j]-glide.

1. The search for typologies of universal phonological figures prominently on the agenda of phonologists of the most various theoretical persuasions. However, since universal typologies are necessarily set up on the basis of the description and reconstruction of sound changes occurring in individual languages we incur the risk of building castles in the air if these descriptions and reconstructions are ill-founded.

A process of 'mid-vowel raising' or 'height dissimilation' is unanimously assumed for Modern Greek. The following derivations represent the steps that lead from AGK *elaía* [elája:] > [eléa] 'olive', *aetós* [a:etós] > [aetós] 'eagle', *palaiós* [palajós] > [paleós] 'ancient' into MGK *eliá* [eλά], *aitós* [ajtós], *paliós* [palós] (Newton 1972: 31-32; my phonetic transcription):¹

(1)	eléa	aetós	paléos (<i>sic</i>)
<i>Height dissimilation</i>	elía	aitós	palíos
<i>Glide formation</i>	eljá	ajtós	paljós
<i>Palatalization</i>	ełjá		pałjós
<i>Postpalatal yod deletion</i>	eλά		pałós

I will focus on height dissimilation (HD) and glide formation (GF). Subsequent processes like palatalization, postpalatal yod deletion, etc. will play a secondary role.

Newton (1972: 31-32) states the rules of HD and GF in the following terms:

¹ My transcription of the ancient etyma is only tentative. Unless otherwise indicated, it corresponds to fairly advanced stages in the Post-Classical and Early Medieval periods.

- (2) **Height dissimilation:** (a) [e] > [i] in the environment adjacent to [a] or [o], and (b) [o] > [u] in the environment adjacent to [a].

Glide formation: A high vowel converts to its corresponding glide in the environment before and after a vowel, any stress which it bears being transferred to this vowel (p. 32).

In both rules the conditioning environment may follow or precede the mid vowel. In [eo] and [oe] sequences it is /e/ which undergoes dissimilation: sc. [eo], [oe] > [io], [oi].

It is true that Newton's (1972: 2ff.) explicit purpose is not to reconstruct the history of Greek, but to account for synchronic interdialectal reconstruction in terms of phonological processes acting on underlying forms: he acknowledges that «there may very well be discrepancies between historical fact and synchronic description» (p. 7). Note the accentuation of 'underlying' /paléos/ in (1) which is at variance with AnGk *palaiós* [paleós]. Nevertheless, most of his derivations «can be interpreted either as recoverable history or synchronic description» (p. 8). Moreover, as Ohala (1992) shows, the SPE model and its sequels take for a synchronic account of morphological variants what is in reality a covert diachronic account. Ohala's criticism holds also for synchronic pandialectal grammars. For some drawbacks of Newton's theoretical approach, see Chambers and Trudgill (1980: 45-52).

The most extensive research on the processes at issue was carried out by Andriotis. In his studies of (1939-1940) and (1974a) he gathered a considerable amount of data on the modern Greek dialects and tried to explain the nature of the raising of mid vowels, which he attributes to the persistent and recurring tendency, purportedly inherent in Greek vocalism, to dissimilate the components of some vowel sequences by maximizing the differences in vowel height in order to preclude the possibility of vowel contraction and preserve the syllabic shape of words.

As he himself acknowledged, Andriotis (1974a: 38) adopted the doctrine generally accepted for Ancient Greek (Solmsen 1893). Spellings like those listed under (3) would be *prima facie* evidence for HD in some ancient dialects.²

² In Laconian, Heracleian, Argive, and Cretan, the process applies only to ancient hiatuses. Recent hiatuses created through the loss of /w/ remain untouched: cf. *[r^héwonta] > Heracl. *réonta* [r^héonta] 'flowing-N.PL', *[ennéwa] > Heracl. *hennéa* [hennéa] 'nine'. Given that the ancient dialectal texts lack any indication of accent, the marking of the forms cited is conventional and reflects no commitment as to the real position of the accent. For the reasons that will become apparent below, I believe that e.g. Heracl. *ankotharíonti* must represent [aŋkot^harjón̄ti] (*ankotharíōnti*) rather than [aŋkot^haríonti] (*ankotharíonti*).

- (3) Cyprian *a-te-li-ja i-o-ta* (alphabetic Greek *atelija iónta*) [atélíja iónta] 'being-N.PL tax-free-N.PL' (< *ateléa eónta* [ateléa eónta])
 Boeotian *epolémion* [epolémion] '(they) were making war' (< *epolémeon* [epolémeon])
 Thessalian *geníoun* [geníou:n] 'breed-GEN.PL' (< *genéo:n* [genéou:n])
 Pamphylian *adriíōna* [adrijō:na] 'banqueting hall-AC' (< *andreō:na* [andreō:na])
 Laconian *hagíontai* [ha:gíou:ntai] '(they) think-SUBJ' (< *hagé:ontai* [ha:géou:ntai])
 Argive *thiíōi* [t^hijou:i] 'god-DAT' (< *theō:i* [t^heō:i])
 Heracleian *ankotharíonti* [aŋkot^haríonti] '(they) shall clear out' (< *anakotheáronti* [anakot^haréonti]), *metrió:menos* [metrió:menos] 'measured' (< *metreómenos* [metreómenos])
 Cretan *thiós* [t^hiós] 'god' (< *theós*), *geniá* [geniá:] 'breed' (< *geneá* [geneá:]).

In Hellenistic and Roman times, the inscriptions and the papyri (Gignac 1976) teem with misspellings like *eiorté:*, *iorté:* for classical *heorté:* [heorté:] 'feast'; cf. also hypercorrect *oikéas* for *oikías* [oikías:] 'house-AC.PL'. These misspellings are prima facie evidence for HD in the ancient Koine, the ancestor of most modern dialects.

Allegedly, an intermediate step with an ultra-closed kind of short [e] is attested by (mis)spellings of two types: (a) *ei* for *e*, instances of which occur all over the Greek-speaking world: e.g. Att. *theiós* for *theós* 'god', (b) the special letter |- ('half-H') used in a few inscriptions of the 5th c. BC in Thespias (Boeotia), cf. [H]erakl|-os (supposedly for *Herakléos* [he:rakléos] 'Heracles-GEN'). A priori this is most unlikely. Unlike professional phoneticians, laymen are not interested in representing low-level phonetic detail. Symptomatically, Andriotis (1974a: 47), a scholar with formal training in phonetics, implicitly declared himself incapable of determining without the help of suitable phonetic instruments whether the articulation of /e/ in modern Greek dialects is higher before a vowel than in other contexts.

Actually, misspellings of the *theiós* type are not indicative of the presumptive closed quality of prevocalic short /e/. They result from hypercorrection since prevocalic /e:/ and /e:/ were liable to abbreviation and synzesis: cf. *e* for *ei* in Att. *prutanéon* for *prutaneíon* [prytané:on] 'Prytaneum'. As for [H]erakl|-os, the sign |- must represent a long closed /e:/ much like in e.g. *Ti-siméne:s* [te:siméne:s] (name), where /e:/ (|-) is the reflex of an ancient diphthong /e:/ (cf. *Teisiméne:s* [tejsiméne:s]). Unlike in other dialects, names in *-kléwe:s* [kléwe:s] have a presuffixal long vowel in later Boeotian inscriptions (4th-2nd c. BC), where /e:/ is consistently represented by the digraph *ei* (cf. *He:rakleíōs* [he:raklé:os]).

In earlier papers (Méndez Dosuna 1991-1992, 1993a, 1993b), I have dealt extensively with the data of Ancient Greek, challenging the traditional explanation. In one paper (Méndez Dosuna 1993b), I touched upon the Modern Greek evidence, but since that paper, was published in Spanish in the proceedings of a conference on Ancient Greek dialects, it has understandably escaped the attention of specialists in Modern Greek.

In this paper, I will present an in-depth analysis of HD in the modern dialects. After a survey of the relevant data (Section 2), I will highlight the weak points of the hypothesis at issue (Section 3) and argue for synizesis (GF) as an alternative, more natural explanation (Section 4). In Section 5, I will re-examine the dialectal evidence, trying to demonstrate that it is not as compelling as it might look at first glance. I will conclude that the process of HD is illusory.

2. Let us first present the evidence found in the modern dialects (Andriotis 1939-1940, 1974a, 1974b, Karanastasis 1963, Minas 1970, Newton 1972, Rohlf's 1977, Tsopanakis 1940). For the sake of argument, I will be conceding the existence of a process of HD. First, I present the data of primary ancient hiatuses inherited from Ancient Greek (2.1), then those of secondary, more recent hiatuses which arose in some dialects through the loss of an intervening consonant (2.2).

2.1. In unstressed position, HD and GF apply regularly in all dialects: e.g. [eortí] > MGK [jortí] 'feast'.³

Conversely, in stressed position, the dialects show considerable differences. They fall into five types. Types A-D correspond to the four logical combinations of the two processes.

In dialects of Type A neither HD, nor GF applies: [miléa] 'apple tree', [kariðéa] 'walnut tree', [milía] 'speech', [karðía] 'heart'. This type is found in Old Athenian, Megara, Aegina, Kimi (Euboea), Mani, Kythera, Langadia (Arcadia), Elimbos (Karpathos), Apulia, Pharsa (Cappadocia), and Pontos (for /éa/ sequences).

In Type B dialects (Calabrian Greek, Tsakonian, Zakynthian), HD applies, but GF fails to do so. The evidence of these dialects is crucial for positing HD as a phonetic process independent of GF. Calabrian has [milía] 'apple tree', [sutʃía] 'fig tree', [kardía] 'heart' (as a matter of fact, the situation is somewhat more complex, see Section 4).

In Tsakonian we have [eléa] > [elía] 'olive', [vréa] > [vría] 'old woman', [enéa] > [enía] 'nine', [paɣonía] > [paɣonía] 'frost', [vrýon] > [vʒie] 'moss', [mía] > [ná] 'a-FEM' (Pernot 1934: 64-65). Primary /i/ palatalized any preceding /l, n, r, m/. Conversely, palatalization did not take place before an [i] resulting from /e/. Likewise, /o/ in the last syllable of a word becomes [e] after primary /i/ ([vjie]), but not after ancient /e/ ([krío]). Therefore HD postdates palatalization and /o/-fronting.

³ The IPA sign [j] represents a palatal fricative (fricative yod); [j] is a palatal approximant (yod proper) as in E. *yes* [jés].

The case of Zakynthian is especially intriguing in that GF seems to affect [i] only if preceded by one of what Newton calls the 'palatalizing consonants'.

(4)	miléa	kariðéa	milía	karðía
<i>Height dissimilation</i>	milía	kariðía		
<i>Glide formation after /k, x, g, l, n/</i>	miljá		miljá	
<i>Palatalization</i>	miłjá		miłjá	
<i>Postpalatal yod deletion</i>	miłá		miłá	

An interesting type (Type C), which Newton and Andriotis ignore, is the converse of Type B. In this case it is GF which applies to the exclusion of HD (Hatzidakis 1897: 114-115, 1907: 145; Thumb 1910: 9; Kondosopoulos 1994: 96): [axlaðéa] 'pear tree' > [axlaðeá], [karðía] 'heart' > [karðjá]. This situation is found in scattered areas of Thessaly, Macedonia, and Thrace.

In most dialects, including the MGK, both HD and GF applied (Type D).

(5)	miléa	kariðéa	omilía	karðía
<i>Height dissimilation</i>	milía	kariðía		
<i>Glide formation</i>	miljá	kariðjá	miljá	karðjá
<i>Other processes</i>	miłá	kariðjá	miłá	karðjá

Finally, in some dialects (Type E), [ea] and/or [ia], [io] sequences undergo contraction. This type is largely irrelevant to our problem. In Thessaly, Macedonia, and Thrace /éa/ > [é], in western Crete, and Ikaria /éa/ > [é] (/ia/ undergoes GF regularly) (Newton 1972: 46-52). In Pontic, /eá, iá/ > [é] /ea, ia/ > [æ] and also /eó, ió/ > [ó], /eo, io/ > [ø]: e.g. [paleá] 'ancient-FEM' > [palé], [eneakósia] 'nine hundred-N' > [enækófæ], [trión] 'three-GEN.PL' > [trón], [spéleon] 'cave' > [spéløn]. Stressed /éa/, /ía/ escaped contraction: [vasiléas] (AGK *basileús*) > [vasiléas] 'king', [peðía] > [peðía] 'children' (Papadopoulos 1955: 10-12). In Pharasa (Cappadocian), /ia/ > [e].

2.2. A characteristic feature of SE Greek is the loss of /v, ð, j, γ/ in intervocalic position. This results in the creation of new vowel sequences. Broadly speaking, the sequences [ea], [eo], [oa], [æ], [œ], [ao] are retained in most of the area including Chios, Cyprus, Elimbos (Karpáthos), and north-eastern Rhodes where we find [fléva] > [fléa] 'vein', [meyálos] > [meálos] 'big', [lévo] > [léo] 'I say', [róva] > [róa] 'grape'; note also the lack of GF in [epíva] > [epía] 'I went', [lívo] > [lío] 'little', [γlívo] > [γlívo] 'quickly', [súða] > [súa] 'sewer'.

HD operates in Kos, Kalimnos, and Karpathos. Here we find [fʎia] (for [fléva]), [miálos] (for [meǵálos]), [lío] (for [lévo]), [rúa] (for [róva]); cf. also [póðas] > [púas] 'foot', [fováse] > [fuáse] 'you are afraid'.

GF is most widespread in SW Rhodes, with the outcomes [fljá], [mjálos], [rwá], [fwáse], [swá], [ɣljóra]. These outcomes are liable to undergo further changes like palatalization ([fljá] > [fʎá]) or consonantalization ([rwá] > [rvá], [swá] > [svá], [sfá]). GF occurs more sporadically elsewhere. The following derivations represent the standard reconstruction:

(6)	fléva	meǵálos	róva	súða
<i>Voiced fricative deletion</i>	fléa	meálos	róa	súa
<i>HD (Kos, Kalimnos, Karpathos)</i>	fʎia	miálos	rúa	
<i>Glide formation (SW Rhodes)</i>	fljá	mjálos	rwá	swá

In Samothraki, /r/ is lost in all positions except word-final. The resultant hiatuses undergo HD, but not GF. Consider the outcomes of [méra] 'day', [jérakas] 'hawk', [óra] 'hour', and [forá] 'time'.

(7)	méra	jérakas	óra	forá
<i>/r/ deletion</i>	méa	jéakas	óa	foá
<i>Height dissimilation</i>	mía	jíakas	úa	fuá

Instances like [fʎia], [miálos], [rúa], [púas], etc. in Kos, Kalimnos, Karpathos (Type B₁) and [mía], [úa], [fuá] in Samothraki (Type B₂) seem to warrant once again the existence of HD as a phonetic process distinct from GF.

3. From a strictly theoretical perspective, the rule of HD may be objected to on several counts. Its goal is said to be to forestall contraction and preserve syllable structure. But this is unlikely. It is scarcely credible that speakers would have recourse to an alternative phonetic process in order to avert a danger. This kind of active prophylaxis would imply a mid-term teleology which many linguists are not ready to accept (e.g. Labov 1994: 549). Moreover, applying HD would be, so to speak, to fall out of the frying pan and into the fire, since HD opens the door to GF, a process which alters syllable structure as much as contraction does. In addition, as some dialects of Type E show, [ia] and [io] sequences or, even worse, [ja], [jo] are far from being immune to contraction. Finally, as indicated above, HD never applies to the sequences [ee], [oo]. Thus in SE dialects [fóvos] 'fear' evolves into [fóos] or is contracted to [fós]. Dissimilated *[fúos], *[fóus], or for that matter *[fwós], *[fóus], fail to occur anywhere. Admittedly, the outcome [je] for /ee/ is not phonetic, but due to intraparadigmatic analogy: e.g. *paliés* [paʎés] 'ancient-FEM.PL' (AKG *palaiai*

[paleé]) after *paliós* [paλós] 'ancient-MASC.SG', *paliá* [paλá] 'ancient-FEM.SG', etc.⁴ Why speakers capable of anticipating a long-term phonetic calamity failed to foresee the imminent danger of the geminate vowel sequences [ee], [oo], which are naturally more prone to contraction than [ea], [eo], [ao], remains a question with no obvious answer.

There is little evidence for HD as a living phonetic process in the languages of the world. To my knowledge, the most likely candidate for such a phonetic process occurs in present-day Dutch (J.G. Kooij, p.c.). In /ea/ sequences, unstressed /e/ is raised to [i] (8a). When protected by stress, either primary (´) or secondary (˘), /e/ does not raise (8b). One cannot discard, however, the possibility that the raising of unstressed /e/ might be induced by assimilation to the antihhiatic [j] which is automatically inserted between the two vowels.

(8)	a.	<i>ideaal</i> 'ideal'	[idijál]
		<i>lineal</i> 'linear'	[linijal]
	b.	<i>Koreaan</i> 'Korean' (noun)	[kɔɾiján]
		<i>Korea</i>	[kɔɾéja]
		<i>theater</i> 'theatre'	[tèjátɔɾ]

A well-known phonotactic constraint in French dictates that open /e/ cannot appear before vowels (only closed /e/ occurs in this environment): *idéa*l [ideál] 'ideal', *fléau* [fleó] 'calamity', *réel* [reél] 'real'. But this constraint holds also before /e/ and, what is more, before high vowels: *véhément* [veemã] 'vehement', *véhicule* [veikýl] 'vehicle'. Therefore, whatever its nature, the phenomenon has nothing to do with dissimilation.

Symptomatically, Casali (1996, 1997) does not include a process like HD in his comprehensive typology of hiatus resolution based on an extensive sample of languages. If the uniformitarian principle holds in historical linguistics—and I think it does—we are not allowed to reconstruct for earlier stages of any language a process which has not been directly observed as a change in progress in some living language.

In short, HD is inconsistent, lacks a realistic phonetic motivation, and has no evident parallels in living languages. For this reason, I propose dispensing with it altogether.

4. The phenomena under investigation are most readily explained on the basis of a process of synizesis (loss of syllabicity). First, synizesis turned /e/ or /o/ into non-syllabic [ɛ̥], [ɔ̥]. A stress shift is prerequisite for a stressed vowel to lose syllabicity. This stage survives in the dialects of Type C. Later on, in dialects of Type D, glide adjustment (raising) turned [ɛ̥] and [ɔ̥] into the prototypical semivowels [j], [w]. The historical sequence of changes is the following:

⁴ Pace Newton (1972: 31), there is no phonetic process /ii/ > [ji] either: *paliói* [paλí] 'ancient-MASC.PL' (AGK *paleoí* [paleý]) is modeled after *paliós* [paλós] 'ancient-MASC.SG'. *paliá* [paλá] 'ancient-FEM.SG', etc.

(9)	eortí	enéa	aetós	karǵía
<i>Synizesis (+ stress shift)</i>	ǵortí	enǵá	aǵtós	karǵjá
<i>Glide adjustment</i>	jortí	enjá	aǵtós	
<i>Other processes</i>	jortí	enǵá		karǵjá

An interesting situation is reported by Margariti-Ronga (1986) for the dialect once spoken in Katafiyi (Macedonia). *(C)eV* and *(C)iV* sequences underwent synizesis, but, unlike in the great majority of dialects of Type D, in this village *eV* and *iV* merged only after 'palatalizing' consonants: cf. [enéa] > [ijná] 'nine', [arnía] > [arǵa!] 'lambs'. Otherwise, they remain distinct: [poǵéa] > [puǵǵjá] 'apron' vs. [peǵía] > [piǵǵjá] 'children'. This means that *(C)eV* and *(C)iV* evolved at different paces. As indicated in (10), [ǵ] turned into a 'weak' [j] only after the [j] resulting from /i/ had already become a 'strong' [ǵ] after 'nonpalatalizing' consonants. Contact with [j] made /l, n, k, ʎ/ into full palatals [ʎ, ɲ, ʧ, ʝ]. Other consonants became palatalized: e.g. /t/ > [tʲ]. While 'weak' [j] (< /e/) was absorbed both into palatal and palatalized consonants, 'strong' [ǵ] (< /i/) was absorbed into the palatals, but not into palatalized consonants.

(10)		enéa	arnía	poǵéa	peǵía
<i>Synizesis (+ stress shift)</i>		enǵá	arnjá	poǵǵá	peǵjá
<i>Consonantalization, palatalization, absorption</i>	<i>yod</i>		arǵá		peǵǵjá
<i>Glide adjustment</i>		enjá		poǵjá	
<i>Palatalization, yod absorption</i>		enǵá		poǵǵá	
<i>Mid vowel raising</i>		ijná		puǵjá	

The idea that synizesis is the initial cause of the changes at issue was proposed by Hatzidakis (1897), (1907: 144-146). However, he explained away the evidence of Type B dialects as a case of suffix exchange and did not address the problem posed by the evidence of secondary hiatuses in dialects of Type B₁ and Type B₂ (Section 4 below). Ironically, Hatzidakis denied the existence of synizesis as a living fast-speech process in the MGK (see 5.5 below).

Unlike HD, synizesis and glide adjustment (raising of semivowels) have a clear phonetic motivation which accounts for the failure of geminate vowel sequences [ee], [oo] to end up as [je], [wo] or [eǵ], [oǵ]. Admittedly, there is a strong tendency among languages to avoid the non-optimal diphthongs [ǵe], [ǵo], [ee], [oo].

Diphthongs with high glides ([aj], [au], [ja], [wa]) are much more frequent than diphthongs with mid glides in the languages of the world (Maddieson 1984: 134). Nothing

comparable holds for hiatuses. Thus a process of raising makes more sense with diphthongs (raising of semivowels) than with hiatuses (raising of vowels).

Synizesis and glide adjustment are cross-linguistically common. These processes are directly attested for a wide variety of languages: Japanese (Altaic) (Poser 1986), Ilokano (North Indonesian) (Hayes & Abad 1989), Nepali (Indic) (Ladefoged & Maddieson 1996: 323-324), LuGanda (Bantu) (Clements 1986).

To give an example in a less exotic language, synizesis and glide adjustment are ongoing sound changes in present-day Spanish. Synizesis is most widespread in unstressed position. Full hiatus (e.g. *línea* [línea] 'line') sounds stilted. Synizesis ([líne̞a]) is the normal pronunciation. Glide adjustment ([línja]) is casual and heavily stigmatized. As a result, hypercorrect pronunciations and spellings are far from rare: *geráneo* [xeɾáne̞o] for *geranio* [xeɾánjo] 'geranium', *fóleo* [fól̞e̞o] for *folio* [fóljo] 'folio'. Indeed some hypercorrect forms have wormed their way into the Academy's dictionary: e.g. *espúreo* [espúre̞o] 'spurious', beside *espurio* [espúrjo].

(11)	<i>línea</i>	<i>caerá</i>	<i>coartada</i>	<i>aoristo</i>
	'line'	'it'll fall'	'alibi'	'aorist'
<i>Hiatus</i>	[línea]	[kaerá]	[koartáða]	[aorísto]
<i>Synizesis</i>	[líne̞a]	[kaeɾá]	[ko̞artáða]	[aorísto]
<i>Glide adjustment</i>	[línja]	[kaɾá]	[kwartáða]	[aurísto]

Synizesis adjacent to a stressed vowel occurs in casual styles, especially in connected speech. Glide adjustment is typical of some dialects like Mexican and Argentinian Spanish. Hypercorrection accounts for *candeal* [kandeál] 'white (wheat, bread)' (formerly *candial* [kandjál]), *campeón* [kampeón] 'champion' (formerly *campión* [kampjón] < It. *campione*).

(12)	<i>alinear</i>	<i>cae</i>	<i>almohada</i>	<i>bacalao</i>
	'to line'	'it falls'	'pillow'	'codfish'
<i>Hiatus</i>	[alineár]	[káe]	[almoáða]	[bakaláo]
<i>Synizesis</i>	[alineár]	[káe̞]	[almoáða]	[bakaláo]
<i>Glide adjustment</i>	[alinjár]	[ká̞]	[almwáða]	[bakaláu]

Extreme synizesis of stressed /é/ and /ó/ with concomitant stress shift is less frequent. Glide adjustment occurs exclusively in some Mexican and Argentinian varieties.

(13)	<i>creo que sí</i>	<i>caer</i>	<i>ahora</i>
	'I think so'	'to fall'	'now'
<i>Hiatus</i>	[kréo ke sí]	[kaér]	[aóra]
<i>Synizesis</i>	[kreó ke sí]	[káeɾ]	[áqra]
<i>Glide adjustment</i>	[krjó ke sí]	[ká̞ɾ]	[á̞ura]

Like in Greek, /ee/, /oo/, /éel/, /eél/, /óol/, /oól/ contract in informal speech: *vehemente* [beménte] 'vehement', *coordinar* [korðínár] 'to coordinate', *lee* [lée] '(he) reads' > [lé], *dehesa* [deésa] 'land estate' > [désa], *moho* [móo] 'mildew' > [mó], *alcohol* [alkoól] 'alcohol' > [alkól]. Analogy is at work in instances of apparent dissimilation: cf. substandard *alinie* [alínje] for *alinee* [alinée] 'let him line' with [j] like *linia* [línja], *alinio* [alínjo] for *alineo* [alinéo] 'I line', *aliniar* [alinjár] for *alinear* [alineár] 'to line', etc.

Coming back to the data of Modern Greek, synizesis is decidedly superior to HD in that it gives a coherent and comprehensive explanation for a number of seemingly disparate phonological processes like loss of syllabicity, stress shift, and raising of mid semivowels.

An important point is that synizesis and contraction are not antagonistic phonological processes. Both are functionally equivalent: they involve temporal compression and aim at the elimination of hiatus. Synizesis and contraction apply in complementary distribution

Last, but not least, synizesis occurs in informal registers of the MGK, especially in connected speech. Grammars and phonological studies of Modern Greek ignore this process. Some go as far as to deny its existence categorically (see 5.5 below). The reality of synizesis, however, is substantiated by the evidence of verse. Consider the following 'political verses' (decapentasyllable) (Stavrou 1992: 27-37):

- (14) /ta trópea tis aráxovas ta ðelfiká teméni/
 [ta trópea tis aráxovas ta ðelfiká teméni]
 'the trophies of Arachova, the Delphian sacred precincts'
 (Kostis Palamas, 1859-1943)

/cimáte o néos oréos voskós sti xlói to mesiméri /
 [cimáte o neós oreós voskós sti xlói to mesiméri]
 'the young handsome shepherd is sleeping on the grass in the
 afternoon'
 (Giannis Gryparis, 1871-1942)

/ce ítan oréo to próstayma pu ðéxtices na ðósis/
 [c ítan oreó to próstayma pu ðéxtices na ðósis]
 'and the order you accepted to give was nice'
 (Giorgos Seferis, 1900-1971)

Synizesis is not an artificial poetic licence, but a phonetic process diffusing 'upwards' from casual fast speech into more formal literary registers. Other things being equal, the process operates preferably in unstressed position (e.g. [θeológos], or frequently [θeológos] 'theologian'), then in the position adjacent to a stressed vowel ([θeótita] or [θeótita] 'divinity'), and least frequently with a stressed vowel ([θéosi] 'deification').

5. At this point the reader might be thinking: 'Well, let us grant that there may be some theoretical loose ends in the HD hypothesis. But what about the data of the dialects of Type B, Type B₁, and Type B₂: e.g. Zak. [kariðía] 'walnut tree' (AGK [karyðéa]), Karp. [miálos] 'big', [rúa] 'grape' (cf. MGK [meyálos], [róya]), Sam. [mía] 'day' (MGK [méra])? Do these data not speak for HD and against synizesis?'

All this is true, but appearances may prove to be deceiving. On closer inspection, we can find some dialectal data which do not fit so nicely within the orthodox doctrine.

5.1. To begin with, except for the possible exception of some Thessalian and Macedonian varieties, synizesis (with 'glide adjustment') is general in unstressed position. This holds even for dialects of Type A, where stressed [éV] and [íV] are kept apart from one another: e.g. [eortí] > [jortí] (synizesis), but [kariðéa], [karðía] (no synizesis). The most natural explanation is that synizesis was impeded by stress, as in MGK [míðia], [míðja] 'Medea' vs. [liðía] 'Lydia', [nearós], [ɲearós] 'young man' vs. [néa] 'news'. Note the difference between these and demotic words with obligatory (purely historical) synizesis: [míðja], [míðja] 'mussels', [ɲá] 'young-FEM' (obs.), [ɲáta] 'youth'.

5.2. Second, a hiatus may reflect the failure of synizesis to apply, but it may also be the result of diaeresis (heterosyllabification). Diaeresis may follow synizesis so as to obliterate its effects. A development of this sort is clear in the case of hiatuses after *Cr* clusters. As Newton (1972: 55-56) observes, a previous occurrence of GF is unavoidable if we want to account satisfactorily for the stress shift in the dialectal reflexes of e.g. AGK [ɣréa] 'old woman' and [krýon] 'cold' (for Rhod. [ɣría], [krío] with no apparent stress shift, see Section 5).

(15)	ɣréa	krió
<i>Synizesis (+ stress shift)</i>	ɣrɛa	krjó
<i>Glide adjustment</i>	ɣrjá	
<i>Diaeresis</i>	ɣriá (MGK)	krió (Rhodes, Karpathos)
	ɣrijá, ɣrjá (dial)	krijó (Lesbos), kriʒó (Crete)

The intermediate steps [ɣrjá] and [krjó] are also implied by Peloponnesian [ɣrja], [krjó] (consonantalization of yod), Rhodian [ɣrjá], [krjó] (manner dissimilation), Cypriot [ɣká], [krikó] (for details, Newton 1972: 175-176).

There is some evidence that diaeresis applied in some dialects in a less restricted way. One case in point is the dialect of Zakynthos. As indicated in (4), which, for convenience, is repeated here as (16), Newton (1972: 33) sets up the following sequence of changes:

(16)	miléa	kariðéa	milía	karðía
<i>Height dissimilation</i>	milía	kariðía		
<i>Glide formation after /k, x, g, l, n/</i>	miljá		miljá	
<i>Palatalization</i>	miłjá		miłjá	
<i>Postpalatal yod deletion</i>	miłá		miłá	

A slightly different development is posited on p. 139 for [ɲí] 'young-MASC.PL' (AGK [néy] > [néi])⁵ and [xoɲí] 'funnel' (AGK [xoníon]) with dental palatalization preceding GF. I include the derivations for [miłá] 'apple tree' (AGK [miléa]), [miłá] 'speech' (AGK [omilía]) with this alternative rule ordering:

(17)	néi	miléa	milía	xoɲí
<i>Height dissimilation</i>	níi	milía		xoɲí
<i>Dental palatalization (i.e. /l, n/)</i>	ɲíi	miłía	miłía	
<i>Glide formation (only after palatals!)</i>	ɲjí	miłjá	miłjá	
<i>Postpalatal yod deletion</i>	ɲí	miłá	miłá	

In both cases Newton assumes a process of GF applying to stressed [i] exclusively after consonants liable to palatalize (derivation 16) or after palatal segments (derivation 17). Both restrictions are completely ad hoc. There is no phonetic reason for 'palatalizing', or for palatal consonants to trigger GF.

An alternative, more realistic scenario is given under (18):

(18)	miléa	kariðéa	milía	karðía
<i>Glide formation (+ adjustment)</i>	miljá	kariðjá	miljá	karðjá
<i>Palatalization (+ yod absorption)</i>	miłá		miłá	
<i>Diaeresis (+ stress retraction)</i>		kariðía		karðía

Initially, GF, glide adjustment, and palatalization applied across the board. Later on, the effects of GF were reversed in word-final position so that diaeresis could convert monosyllabic [jó], [já] into disyllabic [ío], [ía] with stress retraction to the penultimate. Diaeresis was no more feasible in cases like [miłá], where [j] had already been absorbed into a palatalized consonant.

⁵ In fact, the evolution of *néoi* [néy] into Zak. *nioi* [ɲí] is not phonetic, but crucially mediated by analogy with *niós* [ɲós] 'young-MASC.SG', *niá* [ɲá] 'young-FEM', etc. (see Section 3).

Although the reasons behind this phenomenon are not completely clear to me, I conjecture that diaeresis started in prepausal position, a position which favours rallentando processes, i.e. temporal expansion: It. *io sono* [jó sóno] 'I am' as against *sono io* [sóno ío] 'it's me'.⁶

5.3. The Zakynthian facts open a new perspective into the proper explanation of the evidence found in the Greek-speaking pockets of Apulia and Calabria. Generally speaking, Apulian Greek may be classified as a dialect of Type A (no HD, no GF). Calabrian Greek belongs in Type B (HD with no GF): cf. [miléa] 'apple tree' > Ap. [miléa], Cal. [milía], [sykéa] 'fig tree' > Ap. [sutféa], Cal. [sutʃía], [karðía] 'heart' > Ap., Cal. [kardía], [peðía] 'children' > Ap. [pedía], Cal. [peðía], [andréas] 'Andrew' > Cal. [andría].

Actually, things are not that simple. First, this classification is valid only for word-final position. As Scheller (1951: 123) noted, synizesis operates with absolute regularity in other positions (1977: 63): cf. [ayíasma] > Ap. [ajámma] 'holy water', [píason] > Ap. [pçáo] 'take!', [ðíasma] > Cal. [ðjámma] 'warp', [píase] > Cal. [pçáe] 'take!'.

More importantly, Scheller (1951: 123-124) observed numerous instances of stress shift, mostly in word-final position, with [-ía, -ío] replacing expected [-iá, -ió] (for the data, see Rohlf's 1977: 64): [skiá] > Cal. [oʃʃía] 'shadow', [θimoniá] > Cal. [θimoniá] 'stack', [deksiós] > Cal. [detsiós] 'right', [anepsiós] > Cal. [anettsiós] 'nephew', [eliós] > Cal. [oððío] 'dormouse', [kriós] > Ap. [krío] 'ram'; cf. also [ryá] > Ap. [rúa] 'pomegranate', MedGk [tryá] > Cal., Ap. [trúa] (also [trúva], [trúva]) 'thread', and [dzyγós] > Ap. [dzío] 'yoke' (Cal. [dziyó]). Scheller explained these instances of stress shift as a consequence of hypercorrection induced by synizesis followed by regression. He failed, however, to observe that stress retraction occurs also in words originally ending in *-eá, -eós*: [foleá] > Cal. [foléa] 'nest', [stereá] > Cal. [steréa] 'barren land', [paleós] > Cal. Ap. [paléo] 'ancient'. Interestingly, while, with few exceptions ([foléa] 'nest', [ennéa] 'nine', [kréas] > [kréa] 'meat', [eléa] > [aléa] 'olive'), in Calabria *-éa* has usually yielded to *-ía* (cf. also *-eá* > *-ía* in [yeneá] > Cal. [jenía] 'race, breed'), in Apulia the converse situation holds, *-éa* occasionally taking the place of etymological *-ía*: [kapnía] > [kannéa] 'soot', [laktía] > [laftéa] 'kick' (Cal. [lastía]), [mería] > [meréa] 'side, part' (Cal. [mería]), [glykía] > [glitféa] 'sweet-FEM', Lat. *fascia* > [faskía] > Ap. [faʃʃéa] 'swaddle' (Cal. [faʃʃía]).

Similar facts are reported for other dialects under the dubious heading of 'suffix exchange' (e.g. Hatzidakis 1907: 268ff.): [yeneá] > Tsakonian [jenía] 'race, breed' (for expected *[jeníá] or *[jenía]), [yonía] > [yonía] 'corner' (for expected *[yonía]) (Pernot 1934: 65), [skorpíos] > Megar. [skorpéos] 'scorpion' (Kondosopoulos 1994: 87), [areá] >

⁶ Contrary to prevalent opinion, I believe that the historical sequence is VLat. *eo* [éο] (class. *ego* [ego]) > [εó] > [jó] > [íο] rather than [éο] > [íο] > [jó].

Zakynthos [aía] 'seldom' (Andriotis 1974a: 25), [skiá] > Pont. [eʃcía] 'shadow', MedGk [tryá] > Pont. [trúya] 'thread'. In Karpathos (Minas 1970: 29), [anepsiós] > [anipsíos] 'nephew', [iós] > [íos], [íjos] 'poison', [kriós] > [kríos] 'ram', [skiá] > [escía] 'shadow', [yós] > [íos] 'son'. An interesting case is [poría] 'passage' > [purǵá] 'the wooden gate into a farm' in Macedonian (Kondosopoulos 1994: 96).

The synchronic mess of southern Italian Greek points to a more complex scenario:

(19)	-iá	-ía	-eá	-éa
<i>Synizesis</i>	-já	-ía / -já	-ǵá	-éa / -ǵá
<i>Glide adjustment</i>			-ǵá / -já	-éa / -ǵá / -já
<i>Diaeresis hypercorrection)</i>	(+ [-éa] prevails in Apulia, [-ía] prevails in Calabria)			

Synizesis and glide adjustment began to apply regularly. In word-final position, however, both processes remained as variable rules. Later on, diaeresis gave way to extensive hypercorrection: in Calabria [-ía] prevailed over etymological [-iá], [-eá], [-éa]; in Apulia [-éa] tended to supplant [-eá], [-iá], [-ía]. The exchange of suffixes is not a purely morphological phenomenon, but ultimately had a phonetic cause.

As for Tsakonian, we can postulate the following changes for the reflexes of AGK [ennéa] 'nine', [kréos] 'meat' (< AGK [kréas]), [paʝonía] 'frost', and [vríon] 'moss'.

(20)	enéa	kréos	paʝonía	vríon
<i>Synizesis (+ stress shift)</i>	enǵá	krǵó	paʝonjá	vrjó
<i>Palatalization of /l, n, r, m/ /o/-fronting</i>			paʝonjá	vr'jó
<i>Glide adjustment</i>	enjá	krjó		vr'jé
<i>Diaeresis (+ stress backshift)</i>	enía	krío	paʝonía	vr'íe
<i>Other processes</i>				vjíe

5.4. Let us now turn our attention to secondary hiatuses (note that learned words, borrowings from Italian, and occasionally primary hiatuses may exhibit a similar behaviour). Once more the dialects of Kos, Kalimnos, Karpathos (Type B₁), and Samothraki (Type B₂) appear to provide conclusive evidence for HD and against synizesis. But closer scrutiny reveals some alarming crevices that threaten the stability of this seemingly solid argument.

Instances are reported in SE dialects with HD co-occurring with an unexpected stress backshift. The phenomenon is especially frequent in SW Rhodes, but is not unheard-of in other dialects (data *apud* Tsopanakis 1940 and Andriotis 1977):

(a) [eá] > [éa], [ía]: [fleváris] 'February' > NE Rhod. [fleáris] > SW Rhod. [f'fáris], but [f'liáris] in Profília; [meyálos] 'big' > NE Rhod. [meálos] > [miálos] (Soroni), SW Rhod. [mjálos], but [méalos] in Laerma and [míalos] in Asklipio, Agios Isidoros, and Vati. Cf. also [θεός] 'god' > [síos] in Chios (Nenita) and [θέυς], exceptionally with synizesis 'on the right', in Siana, Apolakkia, and Embona.

(b) [iá] > [ía]: [ecí ðá] 'there' > [ciðá] > [cjá] > SW Rhod. [t'fá], but [cía] in Profília, Istrios, Arnitha, Vati; [liváði] 'meadow' > Rhod. [liái], but [líai] in Laerma, Profília; [liváni] 'incense' > [líani] in Laerma, Profília; [osía ána] 'the Blessed Anne' > Rhod. [ta sjána] (place name), but [ta síana] in Profília; [tiyáni] 'frying pan' > NE Rhod. [tiáni] > SW Rhod. [t'jáni], but [t'fiani] in Monolithos; [pliýá] 'wound' > [plía] in Vati; cf. also It. *piatto* [pjátto] > Rhod. [pçáto], but [píato] in Profília, AGK [ptyáron] 'shovel' > Rhod. [ftçári], but [ft'fari] in Monolithos.

(c) [oá] > [úa]: [stoá] > Cyp. [stuá], but [stúa] in Chios, Kythnos, [stúa], [stúva], [stúya] in Pontic. Cf. also [aó] > [áo] in [layós] 'hare' > Rhod. [laυs], but [láos] in Asklipio and Salakos.

The orthodox theory cannot cope with these troublesome data, which Newton fails to mention and Andriotis carefully sweeps under the rug.

Tsopanakis (1940: 65) realized that the 'irrational' accentuation of [t'iani], [míalos], [píato], etc. proves that, in spite of appearances (cf. the etyma [fotía] 'fire', [ðrosía] 'dew', [myrtéa] 'myrtle shrub', [yréa] 'old woman', [kréas] 'meat'), the accentuation of [fotía] (Profília, Istrios, Monolithos, Agios Isidoros), [ðrosía] (Profília), [mirtía] (Profília, Istrios, Monolithos, Agios Isidoros), [yría] (Profília, Istrios, Monolithos, Agios Isidoros), [krías] (Monolithos, Vati), must not be etymological, but secondary to the more widespread variants [fotçá], [mirtçá], [yríá], [kriás] ([yrjá], [krjás] in the city of Rhodes).

Tsopanakis postulated the following changes for the varieties with stress backslash:

(21)	mirtéa	yréa	ti(γ)áni	me(γ)álos
<i>Stress shift</i>	mirteá	yreá		
<i>Height dissimilation</i>	mirtiá	yríá		miálos
<i>Stress backlash</i>	mirtía	yría	t'iani	míalos

A different development is reconstructed for the other Rhodian varieties:

(22)	mirtéa	yréa	ti(γ)áni	me(γ)álos
<i>Stress shift</i>	mirteá	yreá		
<i>Height dissimilation</i>	mirtiá	yríá		miálos
<i>Glide formation</i>	mirtjá	yrjá	t'jáni	mjálos
<i>Consonantalization</i>	mirtçá	yrjá	tçáni	

Although his intuition was correct, Tsopanakis failed to identify the real nature of the changes at issue. It is evident that HD cannot account for the hypothetical stress shift [γρέα] > [γρεά], and even less so for the retraction of the stress ([γριά] > [γρία]). Both are ad-hoc changes and, quite unsurprisingly, the intermediate steps *[mirteá], *[mirtiá], *[γρεά] are not attested. Tsopanakis tried to avoid a change [γρέα] > [γρία], but for the wrong reason: he believed that HD did not apply to stressed [e] (1940: 65).

In my opinion, synizesis followed by diaeresis ([fléva] > [fléa] > [flǽa] > [fljá] > [flía]) occasionally with hypercorrect regression ([meýalos] > [meálos] > [meǽlos] > [méalos] and [meǽlos] > [mjálos] > [míalos]) once providing again a more convincing explanation.

Tsopanakis' data seem to indicate that, other things being equal, diaeresis is more frequent in word-final position and in disyllables than in word-internal position and in longer words. As is known, short words favour temporal expansion, longer words favour temporal compression. On the other hand, diaeresis seems to be more frequent after consonants resistant to palatalization than after consonants easy to palatalize: accordingly [myrtéa] 'myrtle shrub' ends up as [mirtía] in Profilia, Istrios, Monolithos, Agios Isidoros, but [miléa] 'apple tree' and [eléa] 'olive' did not evolve into *[milía], *[elía] (cf. Laerma [miLáa], [eLáa], SW Rhod. [miLjáa], [eLjáa], NE Rhod. [mildzáa], [eldzáa] all coming from *[miljá], *[eljá]); [evréos] 'Jew' evolved into [ovríos] in Monolithos and Vati (gen. Rhod. [ovriós], Kremasti [ovrjós]), but [néos] 'young-MASC' > [ɲɲós], 'more' > [ppLó] > [pçó] (*[níos], *[plío] do not occur anywhere). Like in Zakynthian, once palatalization and yod absorption have applied, diaeresis with stress backlash is no more feasible. Similarly in Cos [néos] 'young-MASC' > [ɲɲós], [néa] 'young-FEM' > [ɲɲá], [pléon] 'more' > [ppLó] > [pçó], [istoneaftón] 'to himself' > [stoneɲatón], [neópandros] 'recently married' > [ɲɲópandros] contrast with those of [xréos] 'debt' > [xríos], [kréas] > [kriás] (*sic*), [andréas] 'Andrew' > [andriás] (*sic*), [méγas] 'big' > [mías] (in the river name *Mégas potamós* 'the big river'), [peðáci] 'little child' > [piáci] all with diaeresis in non-palatalizing contexts (Karanastasis 1963: 42).

5.5. My last criticism concerns the accuracy of the data as transcribed in dialectal reports. As Tsopanakis (1940: 56, fn. 1) points out, one cannot always be sure whether the spellings *ou* and *i* represent a vowel [u], [i] or a glide [w], [j].

In other cases, the reporters are clear about this point. Karanastasis (1963: 41-43) states categorically that in the dialect of Kos the sequence [ia] resulting secondarily from the loss of voiced fricatives (and HD) never undergoes synizesis: e.g. [meýalos] > [miálos] 'big', [tiýáni] > [tiáni] 'frying pan'. Note, however, that prevocalic /o/ may occasionally become [w]: [ecíno ðá] 'that there' > [ecinoá] > [cinwá].

I am not convinced of the validity of this statement. It is often the case in Greek linguistics that synizesis is mistakenly identified with its side effects: i.e. consonantalization, palatalization, yod absorption. The following passage by Hatzidakis (1905: 333) is an illustrative example:

Mr. Ps[icharis] insisted that he has heard the word *tímios* ['honest'] pronounced as a bisyllable, even though it is to be noted that both Mr. Souris and I have never heard it but as a three-syllable word, and moreover, if it really had undergone synizesis, it should be pronounced [tímjos], cf. *mnjá* [sc. *mia* [mjná] 'one-FEM'] (translation mine, JMD).

Hatzidakis argues that a learned word like *tímios* is impervious to synizesis, since otherwise, it should be pronounced as [tímjos] with a palatal nasal. But the argument is specious: while palatalization presupposes synizesis, synizesis proper does not entail palatalization. As indicated above, disyllabic [tímjos] with synizesis is possible in rapid speech. Of course, [tímjos] with palatalization would be stigmatized as rustic.

Consequently, it is possible that the transcription of forms like e.g. *miálos* (for *megálos* 'big') correspond to [mjálos] rather than [miálos]. A spelling like *mjálos* or *mjálos* could be interpreted as representing [mjálos] with 'synizesis'. In other cases, the scholars may have misinterpreted the lack of palatalization, lack of consonantalization, etc. for lack of synizesis: i.e. they may have misheard [mjálos] as [miálos].

On the other hand, one should not exclude the possibility that the dialectal informants may have actually produced pronunciations like [miálos]. These should be interpreted as an unwanted side effect of the method of elicitation of the data. In trying to make a favorable linguistic impression on their interviewer, informants tend to affect an artificially careful speech style (Chambers & Trudgill 1980: 58). In the problem at issue, the stigma attached to 'synizesis' may have induced the dialectal informants to overindulge in diaeresis ([miálos]) and in hypercorrect 'irrational accentuation' ([míalos]).

6. The HD hypothesis suffers from several inconsistencies. Synizesis provides a more natural explanation. While the dialectal evidence, upon initial examination, appears to confirm the traditional doctrine and contradict the synizesis hypothesis, I have presented some data that are problematic or utterly incompatible with the HD hypothesis. Finally, I have brought up some problems concerning the evidence itself. Unfortunately, the decay of most local dialects over the last fifty years makes it almost impossible to check the accuracy of some of the data which happen to be crucial to a correct assessment of the facts.

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