PROCEEDINGS OF THE FIRST INTERNATIONAL CONFERENCE OF MODERN GREEK DIALECTS AND LINGUISTIC THEORY

(Patras, Greece, Oct. 12-14, 2000)

Edited by:

ANGELA RALLI
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MARK JANSE

UNIVERSITY OF PATRAS
July 2001

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PREFACE

The first International Conference on Modern Greek Dialects and Linguistic Theory was held at the Conference and Cultural Center of the University of Patras, Greece from October 12 to 14, 2000. It was hosted by the Dept. of Philology (Linguistics Division) and chaired by Angela Ralli (University of Patras), Brian D. Joseph (The Ohio State University) and Mark Janse (Ghent University).

The aim of the Conference was to establish the first truly international Greek linguistic forum that brings together experts working on both linguistic theory and the dialects of Modern Greek in a variety of topics and orientations. The conference was received very enthusiastically by all delegates to an extent that exceeded our initial expectations. A major outcome was the firm will, expressed by all 100 participants, to attend a similar meeting that will be organized every four years at the University of Patras.

We would like to express our gratitude to the invited speakers who so promptly responded to our call and came to the conference, namely, Cleo Condoravdi, Gaberell Drachman, Franco Fanciullo, Eric Hamp, Angeliki Malikouti-Drachman, Paul Kiparsky, and Peter Trudgill. We would also like to thank the others speakers not only for their participation, but for their understanding of the editorial requirements too.

We are particularly grateful to the members of the Organizing Committee (Arjiris Archakis, Dimitris Papazachariou and Asimakis Fliatouras) for their most valuable support before and during the conference. A special 'thank you' goes to the graduate student Stamatia-Irini Spiliopoulou for her important help to the preparation of this volume, and to the following undergraduate students who significantly contributed to the successful organization of the conference: Anna Maria Athanasatou, Thanassis Karasimos, Sofia Katsoura, Marina Maniadi, Panayota Margaza, Dimitra Melissaropoulou, Panayota Photopoulou, Vassiliki Sterjiou, Photini Stratiji, Thanasis Tsiamas, Sofia Vrakatseli.

Last, but not least, the Scientific Committee wishes to extend its sincerest thanks to our Sponsors whose generous financial support made both the Conference and the publication of this volume possible:

- Ministry of Foreign Affairs
- Ministry of Culture
- University of Patras Research Committee
- University of Patras
- Prefecture of Achaia
- Papasotiriou Bookstores

On behalf of the Scientific Committee,

Angela Ralli
July 2001

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THE POSITION OF CLITICS IN CYPRIOT GREEK[1]

Abstract

The paper examines clitic placement in Cypriot Greek, which has general enclisis but with complementizers, negation, modality markers, wh-phrases and syntactic XP-foci. Following earlier work of mine (cf. Agouraki 1992, but also Sportiche 1992), I assume that object clitics head clitic phrases situated between CP and IP. Clitic placement is analysed as an epiphenomenon of verb placement. The claim advanced to account for clitic placement in Cypriot Greek is that Cypriot Greek has a filled C^o requirement. The verb raises to C^o, yielding enclisis, unless that position is already filled. Clitics precede the verb only when the verb cannot raise to C^o because that position is already filled. It is proposed that the filled C^o requirement holds for clause-typing purposes. The relation between Cypriot Greek and standard V2 languages is also discussed.

1. Introduction

The paper examines clitic placement in Cypriot Greek. Cypriot Greek manifests one of only four patterns of clitic placement crosslinguistically (cf. (1)[2]).

(1)   a. Wackernagel pattern   (Classical Greek)
       b. Verb-enclisis pattern   (Cypriot Greek)
       c. Verb-proclisis pattern   (Standard Modern Greek)
       d. Morphological pattern   (Pontic Greek)

The verb-enclisis pattern and the verb-proclisis pattern are mixed patterns of clitic placement, with predominant enclisis and proclisis, respectively. I will refer to the first three patterns of clitic placement as "syntactic" patterns of clitic placement, the idea in this paper being that they have syntactic accounts. The "morphological" pattern of clitic placement, with consistent enclisis, is called so given the fixed position of clitics with respect to the verb; it could, at least prima facie, be argued that, for instance, object clitics in those languages have become definite object agreement markers.

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[2] The names in (1) are provisional but indicative.

Investigation of clitic placement in Cypriot Greek is embedded within the more general questions of language variation and language change in clitic placement[3]. In particular, the paper sets two criteria for a theory of clitic placement in Cypriot Greek. First, the theory must be general enough to possibly account for clitic placement in other languages. Second, the theory should also account for change(s) in clitic placement in the history of a language. The real question behind these two adequacy criteria is what determines the patern of clitic placement in a language. The general claim advanced for clitic placement appears in (2), while the particular claim advanced for clitic placement in Cypriot Greek appears in (3).

(2) General claim:
a. Clitics fill phrases situated between CP and IP.
b. Clitic placement depends on clause structure and involves no clitic-specific properties or properties of other elements triggered by clitics. In particular, clitic placement is an epiphenomenon of verb placement and/or of whether or not the language has a filled [Spec,CP] requirement.
c. Clitic placement does not involve syntactic cliticisation.

(3) Claim for Cypriot Greek:
a. Object clitics head CliticPhrases situated between CP and IP.
b. Cypriot Greek has a filled C^o requirement.

As far as changes in clitic placement are concerned, the prediction of claim (2) is that these occur whenever there is a change in verb placement and/or the ±requirement for a filled [Spec,CP].

2. Data

Cypriot Greek has general enclisis (cf. (4)) but with complementizers, negation, modality markers, wh-questions and syntactic XP-foci. Complementizers include *pos /oti* [finite], *na* [nonfinite], *pu* [strong factives, clefts and relatives], *perki* "lest" and subordinating conjunctions.

(4)   Enclisis
a.   lali   tu   o alos   root clauses
        says   him-cl   the other one
        "The other one said to him."
b.   pulis   mas   to   ?   yes-no questions
        sell-you   us-cl   it-cl

---

[3] Since there are only four patterns of clitic placement across languages, it is plausible to investigate whether the pattern of clitic placement in a language can be predicted. The question is partially addressed in section 7.

"Will you sell it to us?"

c.   KSERO   to   verb-focus
     KNOW-I   it-cl
     "I do know it."

(5)   Proclisis

a.   ipen   pos   ton   aghapa   complementizers
     Said-she   that   him-cl   loves
     "She said that she loves him."

b.   en   tin   perno   negation
     not   her-cl   marry-I
     "I am not marrying her."

c.   perki   su   ton   dhoki   modality markers/complementizers
     maybe   to you-cl   it-cl   gives
     "She may let you have it."

d.   inda   mu   dhkiate   ?   wh-questions
     what   me-cl give-you
     "What will you give me?"

e.   KALA   to   lalun ...   syntactic XP-foci
     RIGHTLY   it-cl   say-they
     "People are right when they say ... ."

3. The Raising to C° Approach

3.1 Agouraki (1997)

In Agouraki (1997) I argued that clitic placement in Cypriot Greek can be accounted for if we assume (a) that object clitics head clitic phrases situated between CP and IP (cf. 3(a)), and (b) that Cypriot Greek is a verb-second language. The clause structure proposed in that paper for Cypriot Greek appears in (6), where FP stands for Focus Phrase. When C° is filled by a complementizer proclisis obtains; otherwise, with some exceptions which are discussed in the next paragraph, the verb raises to C° and enclisis obtains.

(6)
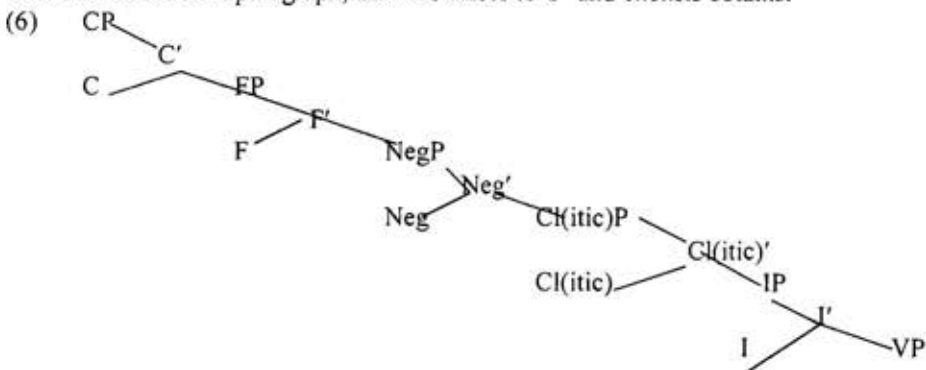
It was noted, however, that Cypriot Greek differs from standard V2 languages in that [Spec,CP] is optionally filled. This is not necessarily problematic. We can assume that movement of V-to-C and the filled [Spec,CP] requirement are two distinct requirements, both of which are met by V2 languages. If two distinct requirements are involved, it is natural to expect that there are also languages (e.g. Cypriot Greek) with just the first, but not the second, requirement.

An apparent problem for the raising to C^o approach is then noted. Namely, there are three instances[4] where C^o is not filled, at least overtly, i.e. negation, wh-phrases and syntactic XP-foci, and yet the verb does not raise to C^o but remains in I, yielding proclisis. It is argued, in this respect, that wh-questions and sentences with syntactic XP-foci should be analysed as wh-clefts and focus-clefts, respectively, with a null copula in the matrix clause and a null complementizer in the C^o of the embedded clause. The null complementizer in the embedded C^o blocks V-to-C movement, yielding proclisis. Finally, with respect to negation yielding proclisis, it is argued that negation in Cypriot Greek is placed in C^o. As a result, the verb cannot raise to C^o, which yields proclisis.

The present paper keeps the basic claim for the analysis of clitic placement in Cypriot Greek, namely that Cypriot Greek has a filled C^o requirement, which forces the verb to raise to C^o provided that position is not already filled, but offers a different account for proclisis with wh-questions and sentences with syntactic XP-foci. Also, the question why Cypriot Greek has a filled C^o requirement was not addressed then but is addressed in this paper. In section 3.2 next I consider some of the implications of the raising to C^o approach.

3.2 The proposal

For reasons that become clear in section 4 and have to do with the ban on V-to-C raising in negative clauses, wh-questions and sentences with syntactic XP-foci, I propose that we do away with the FP projection[5] as distinct from the CP projection (cf. the tree-diagram in (7), which replaces the tree-diagram in (6)).

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[4] Notably, as shown by 5(c), modality markers also block V raising to C. See, however, the discussion in section 4.1, where these modality markers are analysed as complementizers.

[5] We will perhaps have to assume that there is an FP distinct from CP in the case of syntactic XP-foci inside embedded clauses where the C^o position is filled by a complementizer (cf. (1)).

(1)	pistefko	pos	KATI	tis	edhoke
	believe-I	that	SOMETHING	her-cl	gave-he

"I believe there is something he gave her."

(7)

```
            CP
  wh-phrases       C'
  foci
  topics      C          NegP
              [WH]
              [F]             Neg'
                       Neg        ClP
                                      Cl'
                               Cl          IP
                                               I'
                                           I       VP
```
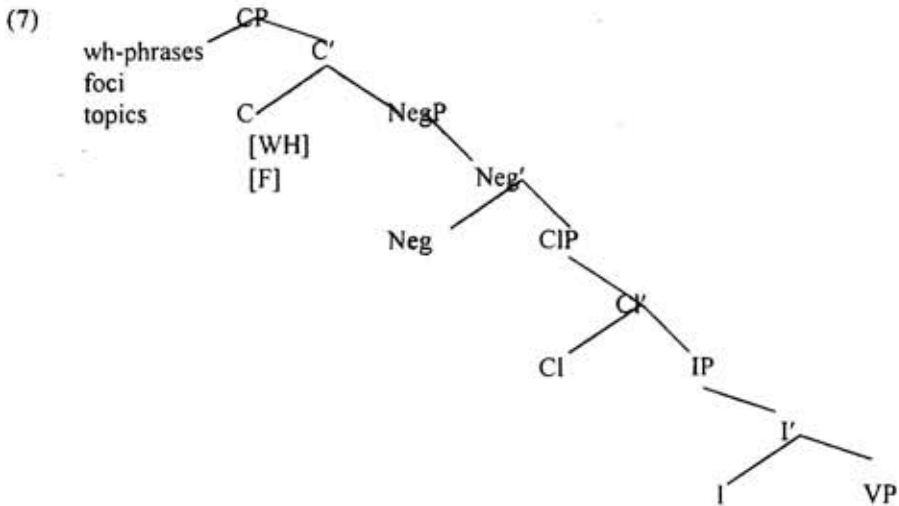
The [Spec,CP] position can be filled by wh-phrases, syntactic XP-foci and topics, in which case the optional filled [Spec,CP] requirement of Cypriot Greek is satisfied. I also assume that in complementizer-less clauses Neg is situated in C° (cf. Agouraki 1997). Another possibility, is that in complementizer-less clauses Neg heads its own projection but there is Neg raising to C in the absence of a complementizer. For wh-questions and sentences with syntactic XP-foci, it is proposed (cf. also section 4.2) that the C° position is filled by a null complementizer. With *WH* and *F* I mark the WH-complementizer, found in wh-questions, and the F-complementizer, found in sentences with syntactic XP-foci, respectively. Null complementizers WH and F type the sentences they are in as wh-questions and focal sentences, respectively. Like overt complementizers, null complementizers Wh and F block V-to-C raising. Unlike the null complementizers WH and F, the verb features [Interrogative] and [Emphatic], situated in C° in yes-no questions and sentences with verb-focus[6], respectively, do not block V-to-C raising. The [+Interrogative]/ [+Emphatic] feature situated on the verb must check the [+Interrogative]/ [+Emphatic] feature; otherwise the derivation will crash.

Claiming that Cypriot Greek has a filled C° requirement, which forces the verb to move to C°, raises the following question: What is the relation between verb second languages and Cypriot Greek? An important difference between Cypriot Greek and standard verb second languages is that in Cypriot Greek the first position in the sentence

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[6] The assumption that syntactic XP-focus is an instance of focus while verb-focus is an instance of emphasis is based on Zubizarreta (1998).

need not be filled. In this respect, contrast example (8), where the first position in the sentence is filled, with earlier examples 4(a)-(c), where the first position in the sentence is not filled. In (8) a clitic-left-dislocated object occupies the first position. In Agouraki (1997) I argued that we should view the V2 phenomenon as consisting of two distinct parts, i.e. V-to-C and filled [Spec,CP].

(8)   ti dhinami mu   afika tin   eso
        the strength-Acc my left-I it-cl inside
        "I have left my strength inside."

The proposed dissociation between the two component parts of "verb second", i.e. verb movement to C° and XP movement to the first position, seems to be supported, not only by the Cypriot Greek data we are seeking to account for, but also by the fact that in standard verb second languages the filled [Spec,CP] requirement cannot be satisfied when the complementizer position is filled by a complementizer, and not the verb. The filled [Spec,CP] requirement in standard verb second languages appears to have something to do with verb raising to C°.

    A dissociation of the two component parts of "verb second" is also proposed by Carnie, Harley and Pyatt (2000) in their examination of Old Irish, for which they claim that it has a filled C° requirement but no filled [Spec,CP] requirement. In particular, Carnie et al (2000:41) point out that "An obvious extension of this approach (i.e. the traditional analysis to verb second) is to posit a set of "verb first" (V1) languages where the requirement on filling the specifier of CP is not imposed, giving a VSO ordering. ... VSO order, under this approach, is thus like a "weak verb second effect", in the sense that it is triggered by whatever triggers V→C° movement in verb second languages, but lacks actual verb second order."

    Given the dissociation between the filled C° requirement and the filled [Spec,CP] requirement, it becomes obvious that in the absence of an overt complementizer V-initial word orders across languages may in principle be attributable to two different structures. One possibility is that the language under consideration has no filled C° requirement; in which case the verb is in I and the D-features of AGR heads are checked after Spellout. The other possibility is that the language under consideration has a filled C° requirement, in which case the verb is in C, but no filled [Spec,CP] requirement; with respect to this latter possibility, it is irrelevant for current purposes whether the D-features of AGR heads are checked before or after Spellout, as the arguments would be postverbal in either case. In Agouraki (1997) I proposed clitic placement as a test for distinguishing between the two possibilities for V-initial word orders in languages with clitics. In a language like Cypriot Greek, where [Spec,CP] can but need not be filled, word orders SVO and OVS are also possible for complementizer-less clauses; in the above orders the verb is in C while S and O, respectively, are in [Spec,CP].

4. Verb raising to C°, negation, modality markers, wh-phrases and foci

In subsections 4.1-4.2, I consider a number of open questions about the verb raising to C° approach. Notably, why the verb does not move up to C° in wh-questions, sentences with syntactic XP-foci, negative sentences and sentences with modality markers. The account offered for proclisis with wh-phrases and syntactic foci differs from that in Agouraki (1997), where it was assumed that wh-questions and sentences with syntactic XP-foci have a biclausal structure.

4.1 Negation and modality markers

Following Agouraki (1997), I propose to account for proclisis with negation in complementizer-less clauses (cf. 9(a)) by advancing the hypothesis that sentential negation in those clauses is generated in C°[7]. As discussed in that paper, nonfinite negation *men* can appear as a complementizer in dubitative clauses (cf. (9)), which suggests that we could possible take it to fill C° in the absence of a complementizer. An alternative approach is to claim that in the absence of a complementizer Negation can raise to satisfy the filled C° requirement. Either approach yields the desired results. For embedded negative sentences where both a complementizer and a negative particle appear we will have to assume that there is a lower NegP[8].

(9)	efountam		men	to	pi	kanenu
	were-they afraid		lest	it-cl	tells	anyone

'They were afraid lest she told anyone.'

With respect to the modality marker *perki* , which marks epistemic modality (cf. 10(a) but also 10(b), with the particular 'wish' interpretation), we notice that, just like nonfinite negation *men* , it can appear as a complementizer in dubitative clauses (cf. (11)). As with negation particles, I will assume that *perki* fills the C° position.

(10)	a.	perki	su		ton	dhoki
		maybe	to you-cl		it-cl	gives

"She may let you have it."

	b.	perki		to	kami
		I wish		it-cl	does-she

"I wish she did it."

(11)	paratira		perki	ton		evris
	watch-you out		lest	him-cl		find-you

"Watch out lest you find him."

---

[7] For argumentation see Agouraki (1997).

[8] CP recursion is another possibility.

Next, I would like to draw attention to some interesting, if puzzling data. Namely, when negation is followed by the particle *dze* "and" proclisis is no longer possible, and we get enclisis instead (cf. the pair 12(a)-(b)). *Dze* has the same effect on a number of other particles/conjunctions, namely *men* [nonfinite negation], *memba(s)* "question marker", *perki* "perhaps, hopefully", *ama* "when", *andan* "when", *oti* "when" and *oson* "while", among others. Thus, *men* , *memba(s)* , *perki* , *ama* , *oti* and *oson* yield proclisis; *men dze* , *memba(s) dze* , *perki dze* , *aman dze* , *andan dze* , *oti dze* and *oson dze* , on the other hand, yield enclisis.

(12) a.   en   ton   idha
                not   him-cl   saw-I
                "I have not seen him."

       b.   en   dze   idha ton
   not   and   saw-I him-cl
                "I have not seen him."

Particle *dze* is a coordinating conjunction, which can sometimes function as a subordinating conjunction[9] (cf. (13)). Given this "ambiguity", I believe that we need to distinguish between hypothesis (a), according to which *dze* occupies two distinct positions depending on whether it is a coordinating conjunction or a subordinating conjunction, and hypothesis (b), according to which *dze* can only fill the position of coordinating conjunctions and does so even when it is interpreted as a subordinating conjunction. I adopt the second hypothesis as a minimal hypothesis, but also because it can provide an account for the fact that the particle+*dze* cluster yields enclisis.

(13) akui tin   dze   lali
       hears her-cl and   say-she
       "He heard her say ... ."

According to the raising to C° approach to clitic placement in Cypriot Greek, for enclisis to arise with *en dze* , *men dze* and all the relevant conjunction+*dze* clusters, it must be the case that the verb is in C°. If so, we should identify the positions filled by Neg/conjunction and *dze* , respectively. If *dze* were a subordinating conjunction in the data under examination it should occupy the C head of the lower clause, which would yield proclisis. This analysis cannot be maintained; enclisis indicates that it is the verb that fills the C° position. An alternative analysis according to which the particle+*dze* complex is a lexicalized item does not seem plausible, either. If that were the case, the particle+*dze* complex would fill the C° position, yielding proclisis, which again is not the pattern observed. The logical possibility which I am taking up is that *dze* functions as a coordinating conjunction, in which case the C° position is empty and the verb can move up to it. If *dze* is a coordinating conjunction, it must conjoin two CPs, which can only be

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[9] The occurrence of *dze* as a subordinating conjunction is lexically determined.

maintained if the negation/conjunction on its own, without *dze* , constitutes an elliptical clause, perhaps with a missing predicate *en* "is". The structure in (14) is advanced to account for the above data.

(14)   ConjunctionPhrase
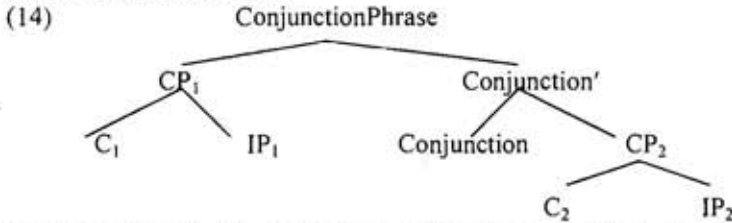
In (14) the negation/conjunction occupies the C_1 position, *dze* is under the conjunction head, and the verb fills the C_2 head. The schema in (14) is overt in some cases. Consider *memba(s) dze* "question marker", the first part of which is known to have originated from the negative particle *men* plus *pa(s)* , a present tense form of the verb *ipagho* "to go".

4.2 Wh-phrases and Foci

Wh-questions and sentences with syntactic XP-foci (cf. earlier examples 5(d) and 5(e), respectively) block V-to-C raising and yield proclisis. I am assuming that the verb cannot raise to C^0 because that position is occupied by the null complementizers WH and F, respectively, which type their respective sentences as wh-questions and focal sentences. The situation where [Spec,CP] is filled by a wh-phrase and C^0 by an overt interrogative complementizer is not unknown among languages (cf. the Serbian/Croatian example in (15), taken from Progovac 1996). My proposal is that Cypriot Greek has a null interrogative complementizer in wh-questions. The proposal is extended, mutatis mutandis, to sentences with syntactic XP foci, for which a null focal complementizer is postulated.

(15)   ko   li   je   koga   predstavio ?
        who   Q   has   whom   introduced
        "Who has introduced whom?"

We have seen that sentences with focused verbs yield enclisis. The question arises why sentences with focused verbs do not 'count as' focal sentences for the purposes of verb/clitic placement. In that respect, I follow Zubizarreta (1998), who distinguishes between focus and emphasis. For Zubizarreta, emphasis may negate the assertion introduced by the context statement of a sentence or it may reassert the assertion introduced by the context statement of a sentence. According to this definition, what we have so far called verb focus is a case of emphasis.

5. Parallel phenomena to clitic placement

This section presents an indirect argument for the raising to C^0 analysis of clitic placement in Cypriot Greek. The argument is based on phenomena which are parallel to clitic

placement. The line of thinking is the following: If we could find phenomena where the placement of some head was sensitive to verb placement and the pattern of placement for this head had important similarities with clitic placement in Cypriot Greek, this could be indirect evidence that the pattern of clitic placement in Cypriot Greek is also due to verb placement. Next, I will briefly look at two such structures, which apparently have parallel placement properties to clitic placement in Cypriot Greek. These are complex predicates (a) in Hungarian and (b) in Dutch/ German.

Consider the Hungarian data in (16) first. Hungarian has remnant verb second in wh-questions and sentences with syntactic XP-foci, where the wh-phrase/focused XP raises to [Spec,CP] and the verb raises to C°. Interestingly for our purposes, in complex predicates, consisting of a verb and a verbal modifier, which can be a particle or a noun, the position of the verbal modifier with respect to the verb is not fixed. There is general proclisis but with Neg, wh-clauses and syntactic foci. The Hungarian data are interesting, mainly for the variable order between the verb and the verbal modifier.

(16) a.   Péter   be   ment   a hazba
           Peter   into   went   the house
           "Peter went into the house."
      b.   Péter   a HAZBA   ment   be
           Peter   the HOUSE   went   into
           "It is into the house that Peter went."
      c.   Péter   nem   ment   be   a hazba .
           Peter   not   went   into   the house
           "Peter did not go into the house."
      d.   Ki   ment   be   a hazba
           who   went   into   the house
           "Who went into the house?"

If we compare clitic placement in Cypriot Greek with verbal modifier placement in Hungarian we can observe one similarity and one difference. The similarity has to do with the triggering environments for the marked option, i.e. proclisis in Cypriot Greek and enclisis in Hungarian. These are partly the same, i.e. Neg, syntactic XP focusing and wh-questions. Note, however, that complementizers in Hungarian do not trigger the marked option, which needs to be explained. The difference is that the default order and the marked order have opposite values in Cypriot Greek clitic placement and Hungarian verbal modifier placement, which also needs to be explained. I will next try to account for both the similarity and the difference between the Hungarian structure and the Cypriot Greek structure. It is in fact easier to accommodate the difference between the two structures.

The difference between Cypriot Greek and Hungarian with respect to the default value for the clitic/ verbal modifier placement is not crucial for current purposes. What is interesting for us is the systematic variability in verbal modifier placement. The difference

in default order between Cypriot Greek and Hungarian is essentially due to the different processes by means of which the clitic/ verbal modifier and the verb come together in Cypriot Greek and Hungarian, respectively. For Hungarian (cf. Kiefer, F. and K. E. Kiss 1994) it is claimed that the verbal modifier attaches to the left of the verb via incorporation. For clitic placement in Cypriot Greek, I have claimed that it does not involve syntactic cliticisation (cf. 2(c)). As for the difference in the behaviour of complementizers, it is straightforwardly accounted for given that Hungarian, contrary to Cypriot Greek, does not have a filled C^o requirement. The marked order in Hungarian complex predicates is, therefore, derived through movement of the verb to a position higher than I, namely C^o. The different values Hungarian and Cypriot Greek have for the filled C^o requirement suffice to account for the difference in the default order for verbal modifier/ clitic placement. The fact that complementizers in Hungarian, contrary to the situation with clitic placement in Cypriot Greek, do not yield the marked order is also explained by the fact that Hungarian has no filled C^o requirement.

Verb movement to C^o, which is in fact responsible for the marked order between verb and verbal modifier, takes place for independent reasons, i.e. reasons that do not have to do with verbal modifier placement. Namely, the verb, normally under I, raises to C when some constituent (i.e. focused XP, wh-phrase, and perhaps also sentential negation) fills the [Spec,CP] position. And this is where we come to the noted similarity between Cypriot Greek and Hungarian in the triggering environments for the marked value, namely the fact that in both languages negation, wh-phrases and syntactic XP foci yield the marked word order. This similarity needs to be accounted for, especially given the different values the two languages have for the filled C^o requirement. In particular, if the only relevant difference between Hungarian and Cypriot Greek had to do with the filled C^o requirement, provided of course that clitic placement and verbal modifier placement are in fact comparable phenomena, there should be no similarity in the environments triggering the marked value. So, if (a) negation in Hungarian was in C, as I have taken it to be in Cypriot Greek and (b) wh-phrases and syntactic XP-foci in Hungarian had null matching complementizers in C, as I have proposed for Cypriot Greek, then Hungarian, having no filled C^o requirement, should have the default order with negation, wh-phrases and syntactic XP-foci, contrary to fact. Which means that a superficial similarity between Cypriot Greek and Hungarian, namely the fact that in both languages negation, wh-phrases and syntactic XP-foci yield the marked order, blurs some relevant differences between the two languages, besides their different values for the filled C^o requirement. One difference is that we will perhaps have to assume that negation in Hungarian fills the same position as wh-phrases and syntactic XP-foci. Another difference between Cypriot Greek and Hungarian, provided the analysis presented for Cypriot Greek is on the right track, is the requirement in Cypriot Greek that the verb cannot fill the C^o position with wh-phrases and syntactic XP-foci, and the reverse requirement in Hungarian. Namely, in Hungarian wh-questions and sentences with syntactic XP-foci the verb must fill the C position. This difference with respect to whether languages require or do not allow V-to-C when

[Spec,CP] is filled by a wh-phrase or focused XP needs to be properly understood, or else it could undermine the validity of the argument why Cypriot Greek does not allow V-to-C in those circumstances. Investigating this issue is outside the narrow scope of this paper. One of the questions that would have to be answered in such an enquiry is whether the ±requirement for V-to-C with wh-phrases/foci in [Spec,CP] correlates with whether the language has a filled C° requirement or not.

Despite the above differences between clitic placement in Cypriot Greek and verbal modifier placement in Hungarian, the Hungarian data have been useful in that they are a generally accepted case where verb placement determines the relevant order between the verb and its modifier. Thus, placement of verbal modifiers in Hungarian provides an indirect argument for the raising to C° approach to clitic placement in Cypriot Greek. The Hungarian data have also been useful in making us realise that verb placement with wh-phrases and foci is an area of parametrisation. The prediction is that there could be languages with clitics, which with respect to clitic placement are like Cypriot Greek with the only difference that they yield enclisis with wh-phrases and syntactic XP-foci.

Complex predicates in Dutch/ German provide the second parallel structure to clitic placement in Cypriot Greek. Dutch, like German and Hungarian, have a class of separable verbal prefixes. As Van Riemsdijk (1999:10) explains, they are separable in that, for example, they are not moved along with the verb under such processes as verb second (V-to-C movement). Consider in (17) complex predicates in Dutch.

(17) a.   dat   Jan   Marie aan   spreekt
            that   John   Mary PREFIX   speaks
            "... that John speaks to Mary."
      b.   Jan   spreekt   Marie aan
            John   speaks   Mary PREFIX
            "John speaks to Mary."

I have argued that clitic placement has, at least descriptive, parallels in verbal modifier placement, as the latter is attested in Hungarian, German and Dutch, among other languages. The verb placement approach to clitic placement seems to be favoured over other approaches.

6. What drives movement to C°?

Platzack (1995) proposes that what drives movement to C° in verb second is the finiteness feature [±F] situated in C°. Raising to C° is thus reduced to a parameter about whether or not [+F] is located in C°. According to Platzack, finiteness (distinct from Tense) is responsible for the assignment of Nominative Case; to assign Case, [+F] must be lexicalized (that is phonologically realised, or overtly checked). Hence, when the verb second parameter is active, C° must be lexicalized to permit the assignment of Nominative Case and thus to trigger the appearance of V-to-C movement. When the V2 parameter is

not activated, [+F] appears in Infl, and must be lexicalized there. Platzack does not discuss what drives movement of an XP to the specifier of CP in V2 languages. Carnie et al (2000) assume in this respect a feature-checking account of movement and posit strong D-features on C°, requiring topicalization of an XP. Similarly, for languages where the requirement for the specifier of CP to be filled is not operative we would have to assume that C° has weak D-features.

Platzack's (1995) account for the filled C° requirement in the Germanic languages cannot be adopted for Cypriot Greek for a number of reasons. First, C° is not always lexicalized (cf. the null WH and F complementizers). Second, the subject in Cypriot Greek need not appear in [Spec,IP] but can remain in [Spec,VP]. In such a case, how is Nominative case assigned to the subject in [Spec,VP]? Also, in embedded clauses with a filled C° it is difficult to see how Platzack's proposal could be compatible with postverbal, i.e. [Spec,VP]. subjects (cf. (18), where *ama* "when" fills the complementizer position). Would Nominative case be assigned after Spellout in those cases? I will not attempt to answer these questions and will present an alternative proposal below.

(18) ama   ton   idhen   o dhrakos
      when   him-cl   saw-he   the dragon-Nom
      "When the dragon saw him."

Before advancing a proposal for what drives movement to C° in Cypriot Greek, I will sum up which elements can fill the C° position. Provided the analysis in sections 3.2 and 4 is on the right track, C is occupied by complementizers, overt or null (i.e. WH and F), negation and modality markers, where both are treated like complementizers in sentences lacking an overt complementizer, or the verb bearing one of three features, i.e. [Declarative], [Interrogative] or [Emphasis]. The morphological feature [Declarative], [Interrogative] or [Emphasis] is realised on C° and is checked either by the verb, when the verb raises to C°, or by a complementizer with the relevant morphological feature. Complementizers with the feature [Declarative] include finite complementizers *oti / pos* "that", strong factive *pu* , nonfinite *na* and a number of adverbial conjunctions. Complementizers with the feature [Interrogative] include *an / memba* "whether". As for complementizers with the feature [Emphasis], I do not know of any in Cypriot Greek. I have assumed that WH and F are complementizers, and not features, because they do not seem to be compatible with verb raising to C°. On the contrary, I take [Declarative], [Interrogative] and [Emphasis] to be verb features, and not complementizers, because they are compatible with verb raising to C°. The description that [Declarative], [Interrogative] and [Emphasis] are verb features, and not complementizers, because they are compatible with verb raising to C°, while WH and F are complementizers, and not features, because they are not compatible with verb raising to C° could provide the means for addressing the difference between Cypriot Greek and Hungarian with respect to whether V-to-C raising obtains with wh-questions and sentences with syntactic XP-foci. For languages with V-to-C raising in wh-questions and sentences with syntactic XP-foci, we could simply assume that

WH and F in those languages are features and not complementizers. Alternatively, in minimalist terms, what one would say is that in Cypriot Greek the features WH and F are weak, triggering movement of the verb after Spellout.

The picture that emerges is that $C°$ is always filled, and, most importantly, that the item which fills $C°$ informs us on the type of the clause. The proposal in (19) is advanced to account for the Cypriot Greek data. Proposal (19) could also be investigated as a working hypothesis for V-to-C in V2 languages, which is, however, outside the scope of this paper.

(19) The filled $C°$ requirement exists for clause-typing purposes.

A couple of questions need to be successfully addressed for the working hypothesis above to go through. One is parametrisation of languages with respect to whether they allow V-to-C raising in wh-questions and sentences with syntactic XP-foci. Namely, what distinguishes Hungarian or German from Cypriot Greek in that respect? The earlier suggestion that this could have to do with a complementizer/ feature distinction for WH and F needs to be further investigated. Another way to look at these data is to say that in some languages (e.g. Cypriot Greek) a verb raises to $C°$ to satisfy its own interpretational/ morphological requirements when $C°$ is not filled, while in other languages (e.g. Hungarian) the verb raises to $C°$ for predication or other reasons. I can only address these questions in future work. This issue turns out to be of particular interest in a discussion of clitic placement across languages.

7. Some consequences of the proposal
This section briefly considers the consequences of the raising to $C°$ approach for the research goals set in the Introduction. The first goal was that the theory must be general enough to possibly account for clitic placement in other languages. The second goal was that the theory should also account for change(s) in clitic placement in the history of a language. The main question behind both enquiries is what determines the pattern of clitic placement in a language.

7.1 Language variation
I will next look at the predictions claim (2), repeated below, makes for the Wackernagel pattern and the verb-proclisis pattern.

(2) General claim:
a. Clitics fill phrases situated between CP and IP[10].

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[10] The claim that clitic pronouns head their own projections, which are distinct from the respective object positions was defended in Agouraki (1992) and Sportiche (1992). What also needs to be examined, but has not to my knowledge, is the origin of clitic phrases. I intend to address this issue in future research.

b. Clitic placement depends on clause structure and involves no clitic-specific properties or properties of other elements triggered by clitics. In particular, clitic placement is an epiphenomenon of verb placement and/or of whether or not the language has a filled [Spec,CP] requirement.

c. Clitic placement does not involve syntactic cliticisation.

According to claim 2(c), the verb-enclisis pattern, the verb-proclisis pattern and the Wackernagel pattern of clitic placement do not involve raising of the clitic to some head or raising of some head to the clitic. The key factor which determines whether a language with "syntactic" clitics will have the verb-enclisis pattern, the verb-proclisis pattern or the Wackernagel pattern is verb placement. In general, a language manifests the verb-enclisis pattern if it has a filled $C°$ requirement (cf. Cypriot Greek but also European Portuguese, Galician, Leonese, Asturian Spanish and Old Spanish), and the verb-proclisis pattern (cf. Standard Modern Greek, but also French, Italian and Spanish) if it has no filled $C°$ requirement. As far as the Wackernagel pattern (cf. Classical Greek and Serbocroat) is concerned, the prediction is that it is manifested by languages with a filled COMP requirement, which does not, however, specify whether it is $C°$ or [Spec,CP] that is filled. In the Wackernagel pattern of clitic placement either [SPEC,CP] or C is necessarily filled, but, crucially, not both and the clitic follows in second position. So this is an either filled $C°$ requirement or filled [Spec,CP] requirement situation. What we find here reminds one, mutatis mutandis, of the old Doubly-filled-Comp filter, in the sense that the languages involved appear to have a filled Comp requirement, where *Comp* refers to either the [Spec,CP] position or the $C°$ position. It goes without saying that one of the targets of the proposed analysis for the Wackernagel pattern would be to "translate" the Doubly-filled Comp filter into current syntactic theory.

It should not be thought that languages belonging to each one of the three "syntactic" patterns of clitic placement form homogeneous blocks. The proposed analysis for clitic placement makes the following prediction in that respect. Except for the filled $C°$ requirement and the filled [Spec,CP] requirement, a number of other parametric differences affect clitic placement and this is where we find differences among languages belonging to the same clitic placement pattern. In each one of the three "syntactic" patterns of clitic placement we can observe internal differences, which are in turn explained given independent parametric options these languages make. Thus, if a Wackernagel pattern language allows for multiply filled [Spec,CP] (e.g. Polish), then the clitic will not appear in second surface position, although it does appear in the same structural position as in a Wackernagel language which does not allow for multiply filled [Spec,CP] (e.g. Serbocroat). Bulgarian offers another example of parametric variation. In particular, Bulgarian, a language with a filled $C°$ requirement, differs minimally from Cypriot Greek in that topics in [Spec,CP] also block V-to-C raising. In terms of word order, to the exception of sentences with topics, the position of clitics in Bulgarian is the same as the position of clitics in Cypriot Greek. However, the two languages differ in another respect, which would

make us classify Bulgarian clitics as Wackernagel clitics, rather than as verb-enclisis clitics. Namely, Bulgarian clitics systematically cliticize phonologically on the constituent/head in CP. This phonological difference between Cypriot Greek clitics and Bulgarian clitics makes us classify them under distinct patterns of clitic placement even though syntactically clitic placement in the two languages is almost identical. This suggests that we should rethink the categorisation of patterns of clitic placement proposed in (1), in the sense that the verb-enclisis pattern and the Wackernagel pattern do not differ syntactically; they certainly differ in terms of the phonological host of the clitic but I should think that this can be kept as a separate issue. The terms verb-proclisis pattern, verb-enclisis pattern and Wackernagel pattern should be replaced by terms which do not, either exclusively or in part only, make reference to the phonological attachment property of clitics.

To sum up, clitic placement is affected by whether a language has a filled C^o requirement, a filled [Spec,CP] requirement or both. Also by the existence of "spec-head agreement well-formedness criteria", checking of agreement features before or after Spellout, whether or not the filled [Spec,CP] requirement or the criteria requirement includes topics and so on. Examination of a wide range of languages with clitics will show whether these predictions are borne out.

7.2 Language change

Finally, as far as changes in clitic placement are concerned, the prediction of the verb placement analysis for clitic placement is that these occur whenever there is a change in verb placement and/or the requirement for a filled [Spec,CP]. A question addressed within this type of enquiry is whether there is a particular directionality in language change with respect to the patterns of clitic placement. The directionality in language change seems to be from the Wackernagel pattern to the verb-enclisis pattern and from the verb-enclisis pattern to the verb-proclisis pattern (cf. Greek, Romance). In terms of the discussion in this paper, there seems to be a continuum from (1) languages with a filled Comp requirement (e.g. Classical Greek) to (2) languages with a filled C^o requirement but no filled [Spec,CP] requirement (e.g. Hellenistic Greek, Medieval Greek and Cypriot Greek) and from there to (3) languages with neither a filled C^o requirement nor a filled [Spec,CP] requirement (e.g. Standard Modern Greek)[11]. I cannot tell at this stage of my research where languages with

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[11] On the history of clitics in the Greek language I quote below two extracts from Horrocks(1997). I am interested in the description of facts and do not follow the author's account of the changes in the clitic system. According to Horrocks (1997:59), "Originally clitic pronouns typically collocated with sentence connectives in second position in a sentence. ... The frequently wide separation of clitic pronouns from their governors soon led to a tendency for them to appear instead immediately after the relevant head in a syntactic phrase. As we move into the hellenistic period, the tension between these two options began to be resolved by placing the verb initially before clitic pronouns in second position. The result was an increasingly standard V-clitic-S-O order, with VSO then

both a filled C° requirement and a filled [Spec,CP] requirement (e.g. Germanic languages) fit in the above continuum.

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becoming routine even in the absence of a motivating (?) clitic. This distribution was typically disrupted when some clausal element was preposed as an emphatic/ contrastive 'focus', or when some sentential 'operator' (e.g. expressing negation, interrogation, or modality over the clause as a whole) occupied the initial slot. In these cases we find instead the order F(ocus)/ Op(erator)-clitic-V, i.e. with V as near to initial position as possible, but still adjacent to its dependent pronoun; all other constituents follow. Verb-final thus ceased to be a 'natural' order in popular Greek. The dual distribution of clitics (i.e. V-cl in most cases, cl-V in the presence of initial F/Op) continued into medieval Greek and some modern dialects (e.g. Cypriot)." Also from Horrocks (1997:209-210), "In Classical Greek there was a large set of enclitic sentence connectives and particles which appeared in second position in the clause (the so-called Wackernagel position). Enclitic pronouns were originally attracted to this slot, away from their governing verbs, though later there was a counter-tendency for them to appear to the right of verbs, away from the clitic group (as often in classical Attic prose). The verb could, however, also be drawn optionally to a clitic in second position, and appear initially if there was no complementizer (giving the order verb+clitic(s)+subject), or immediately to the right of the clitic if there was one (giving the order conjunction+clitic(s)+verb+subject). This solution was eventually standardised in the spoken forms of post-classical and medieval Greek. The modern conjunctions (i.e. na , pos , pu) were naturally associated with this living syntactic framework, and in medieval Greek the movement of the verb was generalised, even in the absence of motivating clitics, thus enforcing the order conjunction+V+S in virtually all subordinate clauses. This eventually led to VS becoming routine in main clauses too, always provided that neither the subject nor any other constituent had been preposed for discourse reasons.

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CYPRIOT GREEK AND THE PHONETICS AND PHONOLOGY OF GEMINATES

Abstract

This paper reports on how the acoustic characteristics and phonological patterning of Cypriot Greek geminates bear on the phonological representation of geminates, and by extension on the representation of weight and quantity more generally. Specifically, acoustic data suggest that the Cypriot geminates are ambisyllabic and nearly twice as long as single consonants; yet they either add weight to the syllable they form the coda of, nor do they shorten the duration of the preceding vowel, as would be expected of moraic codas. On the other hand, the Cypriot geminates cannot be considered clusters of identical consonants, since phonological alternations affect them as a unit. Thus the phonetics and phonology of the Cypriot geminates show that they are "true" geminates yet they are non-moraic. These findings suggest that moraic structure cannot adequately represent both weight and quantity; rather, both a moraic and a skeletal tier are needed to represent weight and quantity respectively.

1. Background
The present paper reports on how the acoustic characteristics and phonological patterning of Cypriot Greek geminates bear on the issue of the phonological representation of geminates more generally. In turn, the representation of geminates has far-reaching consequences, since it affects the phonological representation of quantity and weight, for which geminates are a good test case.

1.1. Quantity, weight and the representation of geminates
The representation of geminates has been a long standing problem in phonology. It is of course well known today that the difficulties faced by early analyses were due to the limitations of linear models. The advent of autosegmental phonology offered an appropriate framework, by allowing the separation of a root's features from timing considerations. Simplifying somewhat, this separation was achieved by means of the skeleton. which represents timing information in the form of slots, notated as Cs and Vs (e.g. McCarthy. 1981; Clements & Keyser, 1983), or as Xs, (e.g. Levin, 1985).[1] Thus, in autosegmental terms, geminate consonants are represented as one root node that is linked to two timing slots, as can be seen in (1) (Leben, 1980; Clements & Keyser, 1983; Levin, 1985): (1a) shows the representation of a geminate, and (1b) that of a singleton consonant.

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[1] The differences between the two conceptions of the skeleton, though significant in themselves, are immaterial to the arguments presented here.

(1) a. *geminate*

X   X
 \ /
  V
ROOT
|
[features]

b. *singleton*

X
|
ROOT
|
[features]
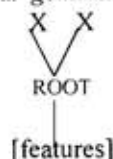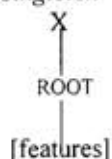
This type of representation makes no specific claim about the *weight* of geminates. It simply captures their *quantity*, that is the fact that geminates are longer than single consonants. Further, by linking the timing slots to one root node, the 'inalterability of geminates,' that is the fact that they behave as a single unit is also explained (see e.g. Schein & Steriade, 1986).

However, the skeleton and syllable structure were soon superseded by moraic representations (among others, Hyman, 1985; Hayes, 1989). Moraic theory is primarily a theory of syllable weight; but since weight is directly linked to quantity, moraic theory also deals with the representation of contrastive segment length. In fact it is held among its proponents that moraic structure can adequately represent both weight and quantity, and thus that there is no need for the skeleton. Several experimental studies provide phonetic evidence in favour of this view (e.g. Maddieson, 1993; Hubbard, 1995a; 1995b; Broselow, Chen & Huffman, 1997; Ham, 1998). Specifically, these studies examine data from several languages and conclude that moraic structure and related phenomena (such as compensatory lengthening and mora-sharing) are directly reflected in the phonetic duration of segments.

A fundamental tenet of moraic theory is that geminates are inherently moraic, i.e. they have weight, a view that has been put forward most forcibly by Hayes (1989). Thus, in moraic theory geminates are represented as shown in (2a).

(2) a. *geminate*

σ_1 σ_2

μ μ

V C

b. *singleton*

σ_1 σ_2

μ

V   C

This representation shows that a geminate consonant has its own mora and is ambisyllabic, since it is linked to both syllable σ_1 and syllable σ_2. A direct phonological consequence of this representation is that geminates affect the weight of the first syllable they are attached to: they make it bimoraic, therefore heavy. From the phonetic point of view, the fact that a geminate consonant is moraic means that it is longer than a singleton (the representation of which is depicted in (2b)), since moraic structure is—as mentioned—meant to represent not only weight, but quantity as well. The representation in (2a) captures the facts about

geminates in several language~ in which weight and quantity go hand in hand. In these cases, the geminates contribute to syllable weight, i.e. they are moraic, and typically appear only in word-medial position, hence the assumption of ambisyllabicity poses no problems.

## 1.2. The representation of non-moraic geminates

It has, however, been noted that not all geminates can be as easily accommodated within the moraic framework. Tranel (1991) mentions the cases of Selkup (a West Siberian language), Malayalam (a Dravidian language), and Tübatulabal (a Uto-Aztecan language), all of which appear to have *non-moraic* geminates. More recently, Hume, Muller and van Engelenhoven (1997) presented a detailed study of geminates in Leti, an Austronesian language. Hume *et al.* convincingly show that the Leti geminates are true geminates (i.e. not sequences of identical consonants), yet they appear word-initially and are non-moraic. In their studies, both Tranel and Hume *et al.* concluded that phonology must retain both a skeletal tier *and* moraic structure, if it is to adequately represent both quantity and weight. In the words of Tranel: "underlying geminate consonants appear to require a phonological theory able to encode length directly rather than by resorting to weight" (Tranel, 1991: 299).

In the face of evidence of this sort, proponents of moraic theory have suggested alternative representations for geminates like those of Leti or Malayalam. Thus, Broselow *et al.* (1997) propose that although all geminates are inherently moraic they may not necessarily head a mora at the surface. Broselow *et al.* work within an optimality theoretic framework and suggest that in languages in which geminates appear not to be weight-bearing, the constraint NoCMORA is ranked higher than MORAFAITH. In other words, these languages prefer not to have consonants heading moras, and thus at the surface the geminates share the mora of the vowel to their left. This type of representation ensures well-formedness, as it keeps a geminate underlyingly moraic, but does not make the syllable to its left heavy. This surface mora-sharing is shown in (3).

(3) *surface mora-sharing geminate* (according to Broselow *et al.*, 1997)
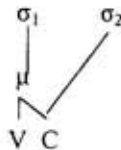
This type of representation can account for non-moraic geminates, but it still does not solve the problem of how to represent word-initial geminates within the moraic framework. In a reply to Hume *et al.* (1997), Davis (1999) suggests a representation for word-initial geminates as two separate root nodes. The representations of Hume *et al.* and Davis are shown in (4). In (4a), which shows the representation proposed by Hume *et al.*, both moraic structure and a skeleton are employed. Davis on the other hand, conceives of the Leti geminates as two separate root nodes (4b), that are linked directly to the syllable node once syllabification has taken place (4c); Davis himself attributes the representation shown in (4c) to Hayes (1989).

(4) a. Hume *et al.*   b. Davis: UR →   c. syllabified geminates
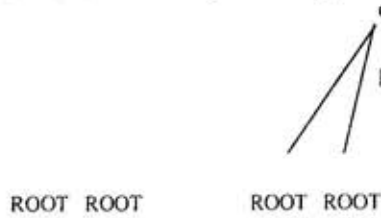
Similar views to those advanced in Davis (1999) are also presented in Ham (1998), who suggests that languages like Selkup, Malayalam and Tübatulabal do not have real geminates but "double consonants," which should be represented as two separate nodes with identical content, an analysis reminiscent of Selkirk (1991).

1.3. Some phonetic predictions

What is of most interest here is the fact that suggestions like those advanced in Ham (1998) or Broselow *et al.* (1997) come complete with explicit predictions about the phonetic timing of geminates; hence they are easily testable in the laboratory.

Specifically, Broselow *et al.* (1997) make a distinction between languages in which coda consonants share a mora with the vowel preceding them, and those in which coda consonants head their own mora. Broselow *et al.* found evidence that vowels shorten when they share their mora with a following consonant, compared to vowels in open syllables. In contrast, in languages in which coda consonants head their own mora, the vowels preceding them are of similar duration to vowels in open syllables. These observations suggest that mora-sharing geminates should also result in shorter duration for the vowels preceding them, while non-mora-sharing geminates should not.

On the other hand, Ham, following Hubbard's proposals (1995a, 1999b), suggests that the timing of moraic segments is controlled by phonology, that is by their moraic nature itself. Specifically, Ham suggests that moraic segments show greater durational stability than non-moraic segments, which are more prone to "low-level" universal phonetic effects. For this reason, Ham explicitly hypothesizes that non-moraic geminates—or "double consonants" in his terms—should be more prone to durational variation than geminates proper, since the latter are moraic, while the former are not.

2. The case of Cypriot Greek geminates

2.1. Testing the phonetic predictions

As mentioned, these hypotheses that derive from alternative moraic representations of the geminates are explicit and easily testable. Cypriot Greek is a fruitful ground for such testing, having stop, fricative, affricate and sonorant geminates. All Cypriot Greek geminates appear regularly in word-medial position, where they contrast with singletons, as in the minimal pairs shown in (5).

(5) a. ['mil:a] "fat" vs. ['mila] "apples"

    b. ['nan:i] "sleep" NOUN vs. ['nani] "dwarfs"

Cypriot geminates may also appear word-initially, though not as frequently as they appear word-medially. The examples in (6) show such word-initial geminates of Cypriot Greek.

    (6) a. ['l:ion] "a little"

        b. ['m:atin] "eye"

        c. ['tʃ:ain] "tea"

        d. ['ʃ:il:os] "dog"

        e. [' p:efto] "I-fall"

These examples establish the fact that geminates may appear word-initially. It is also clear that word-initial geminates in Cypriot Greek contrast with singletons, as the minimal pairs in (7) show.

    (7) a. ['ʃ:il:i] "dogs" vs. ['ʃili] "lips"

        b. [' p:efti] "s/he falls" vs. [' pefti] "Thursday"

Although the issue of weight is not pursued here at length—or anywhere in the literature on Cypriot Greek, as far as I am aware—it is clear that the geminates of Cypriot Greek cannot be weight-bearing, since there are no weight distinctions in this language (see e.g. Newton, 1972). Evidence for weight distinctions would come from restrictions about minimal word structure (e.g. in the creation of hypocoristics) and from stress patterns. However, neither suggests that there are moraic distinctions in Cypriot Greek in which geminates could participate.

Now, if we accept that all syllables are monomoraic in Cypriot Greek, and therefore that coda consonants cannot possibly add weight to a syllable, then one possibility for the representation of Cypriot geminates within the moraic framework is to adopt Broselow *et al.*'s solution. That is to say that Cypriot geminates are inherently moraic, but at the surface they share the mora of the vowel to their left. In that case, we should find that geminates in Cypriot Greek shorten the vowel of the preceding syllable. But, this is precisely what Cypriot geminates do not do.

Data to this effect come from two studies on the phonetics of geminates (Arvaniti, 1999; Arvaniti & Tserdanelis, 2000; Arvaniti, in press; Tserdanelis & Arvaniti, in press). In these studies, the data were based on the speech of eight native speakers of CYG. Four of those were recorded for Arvaniti (1999), a study that involved only sonorants. The other four speakers were recorded for a larger study of stops, fricatives, affricates and sonorants (Arvaniti & Tserdanelis, 2000; Arvaniti, in press; Tserdanelis & Arvaniti, in press). The speakers in both studies were recorded reading seven repetitions of the test sentences in random order. The test sentences were of the structure shown in (8), in which the slot in the middle was filled by a test word.

(8) ['ipendu ___ 'tʃefien] "S/he said to him ___ and left"

The test words were minimal or near minimal pairs of the form C_1VC_2V where C_2 was either a single or a geminate consonant. The word pairs in (9) are part of the materials used in the larger study. In these examples, the consonants under investigation are shown in bold.

(9) a. ['pɐpɐ] "pope" vs. ['mɐpːɐ] "ball"

     b. [pɔ'tɐ] "drinks" vs. [kɔ'tːɐ] "s/he knocks"
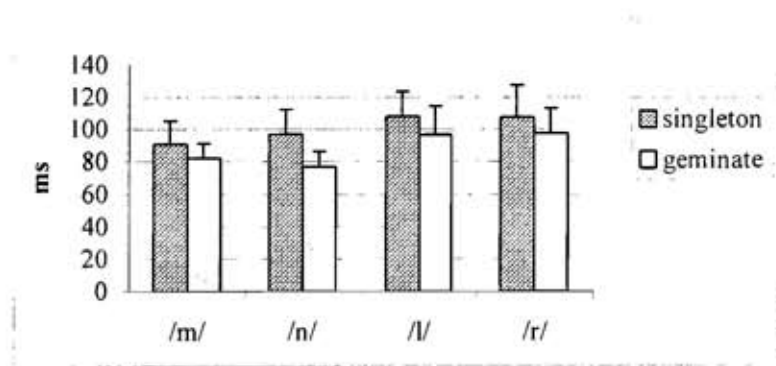
Figure 1: Mean durations and standard deviations of vowels preceding either a singleton or a geminate /m/, /n/, /l/ or /r/, separately for each sonorant. None of the differences is statistically significant. [From the presentation of Arvaniti (1999).]

Figures 1 and 2 come from the two studies and present the duration of the vowels preceding singletons and geminates. As these figures show, the duration of the preceding vowel was largely unaffected by the presence of the geminate, contrary to the mora-sharing hypothesis of Broselow *et al.* (1997). It is even the case that in the larger study /ʃ/ showed *longer* vowel duration before the geminate than before the singleton, an unexpected result marked with arrows in Figure 2 (Arvaniti & Tserdanelis, 2000).
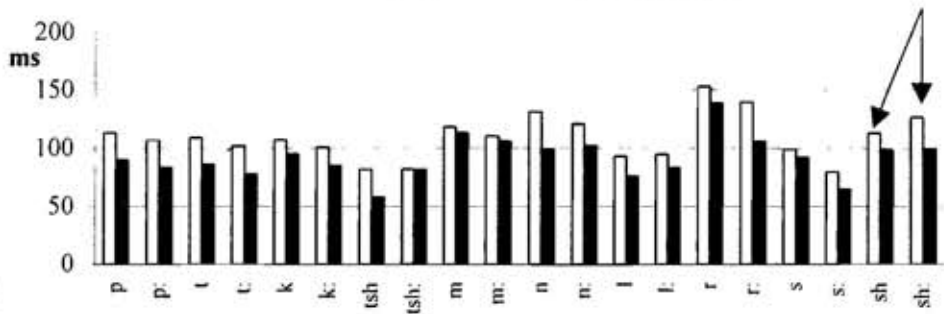
Figure 2: Mean durations of vowels preceding either a singleton or a geminate consonant, separately for each consonant type and stress condition. Grey bars for stressed vowels, black bars for unstressed vowels. 'tsh' stands for /tʃ/ and 'sh' for /ʃ/. Only /k/, /m/ and /r/ showed significantly shorter vowels before geminates than before singletons; /ʃ/ showed the *opposite* effect. [From Arvaniti & Tserdanelis (2000).]

Thus, the Cypriot data show that the hypothesis of Broselow *et al.* (1997) does not hold for at least *one* language with non-moraic geminates, Cypriot Greek. In other words, for Cypriot Greek at least, even word-medial geminates cannot possibly be underlyingly moraic and sharing at the surface the mora of the vowel preceding them. If that were the case, the vowel should be shortened when a geminate followed, a hypothesis that is not supported by the durational data of Arvaniti (1999) and Arvaniti & Tserdanelis (2000).

The alternative is to adopt the analysis of Davis (1999) or Ham (1998), that is to represent the Cypriot geminates as two separate root nodes. Such a solution is attractive, given that the Cypriot geminates can appear word-initially as well as word-medially. As mentioned in §1.3., according to Ham (1998), representing geminates as two separate root nodes means that phonetically these geminates should be more variable than moraic geminates; they should also be more variable than single consonants, since they comprise two root nodes instead of one.

It is evident that this variability should be most pronounced under contextual changes that affect segmental duration. However, Arvaniti (1999) and Arvaniti (in press) do not offer strong support in favour of this view. Concretely, in these two studies Cypriot singletons and geminates were compared to Greek singletons under changes of speaking rate, and it was shown that the geminates were not more variable than the singletons in either linguistic variety. Two indicators of this lack of greater variation, the standard deviations of the data and the fast-to-normal rate duration ratios, are presented in Table 1. These data suggest that the phonetic timing of Cypriot geminates is as stable s that of the singletons, and thus it does not offer support for the view that these geminates should be represented as two root nodes.

		SGR singletons	CYG singletons	CYG geminates
/m/	S.D.	13	20	18
	F/N	0.85	0.76	0.80
/n/	S.D.	16	12	18
	F/N	0.79	0.82	0.77
/l/	S.D.	12	12	20
	F/N	0.85	0.82	0.77
/r/	S.D.	4	9	19
	F/N	0.93	0.96	0.72

Table 1. Standard deviations (S.D.) and fast/normal ratios (F/N) for /m/, /n/, /l/ and /r/ according to type and language (CYG = Cypriot Greek; SGR = Standard Greek); the values are averaged across speakers. [Adapted from Arvaniti (1999).]

Further phonetic evidence against the two-root node analysis comes for data on the syllabification of Cypriot geminates. Specifically, the two-root analysis would require that such geminates are tautosyllabic, rather than ambisyllabic. Intonational data, however, strongly suggest this to be incorrect for Cypriot Greek. Concretely, Cypriot Greek has a low rising pitch accent similar to that found in Standard Greek. For Standard Greek we know that this accent should be analysed as a bitonal L+H, and that the Low tone appears at the very beginning of the stressed syllable it is associated with it, or slightly before that (Arvaniti & Ladd, 1995; Arvaniti, Ladd & Mennen, 1998; 2000). On the basis of these data, Tserdanelis & Arvaniti (in press) tested the hypothesis that the Cypriot data involve a similar early Low target, the position of which is influenced by the presence of an intervocalic geminate. In particular, the hypothesis was that the L tone would appear at the onset of the stressed syllable, if that involved a single consonant. In contrast, the L tone would appear in the middle of the geminate's duration—if the L aligned in Cypriot Greek in a similar fashion to Standard Greek and geminates are ambisyllabic.

For obvious reasons, it was only possible to test this hypothesis with words with final stress (so that the L should fall on the intervocalic consonant), and with intervocalic segments that do not disrupt the fundamental frequency contour, i.e. /l/, /m/ and /n/. The investigation of these data (a total of 84 cases) showed that indeed the L tone of L+H pitch accents aligned with the middle of (sonorant) geminates, but with the onset of equivalent singletons. This suggests that in Cypriot Greek geminates are indeed ambisyllabic and not tautosyllabic, as Davis's or Ham's two-root representations would predict. An example of this difference in tone alignment is shown in Figure 3: on the left the label L (denoting the L tone) is just before C2 (denoting the onset of the single intervocalic /l/; on the right, the label L is between C2 and V2 (denoting the onset of the vowel, after the geminate intervocalic /l/).
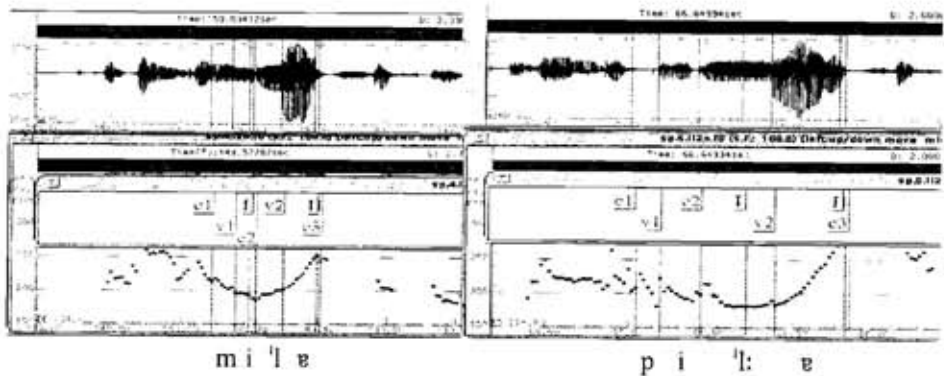
m i ˈl ɐ   p i   ˈlː   ɐ

Figure 3. Low tone alignment. The vertical lines labelled *c1, v1, c2, v2, c3* demarcate the onset of the named segment in the test-words (*c3* marks the onset of the carrier phrase following the test word). The line labelled *L* shows the position of the L tone of the L+H pitch accent. [From Tserdanelis & Arvaniti (in press).]

2.2. The phonological patterning of Cypriot geminates

In addition to the phonetic facts that do not support the two-root analysis, there are serious phonological drawbacks to it. Apart from the obvious fact that the presence of two identical root nodes violates the OCP, such as analysis effectively suggests that these consonants are sequences and therefore not true geminates. Hume *et al.* (1997) have convincingly shown, using reduplication data, that this is the wrong assumption for Leti; that is they have shown that Leti geminates are characterized by the inalterability typical of true geminates. Unfortunately Cypriot Greek does not exhibit similar phenomena. However, it is indeed the case that Cypriot geminates do not behave like clusters in cases of morphophonemic alternations. This has been pointed out both by Newton (1972), himself an advocate of the cluster analysis, and Malikouti-Drachman (1987, 1998), who first proposed an autosegmental analysis of the Cypriot geminates. For example, alveolar and velar consonants turn to palatals in front of /i/.[2] This change applies to the geminates as a unit. For clusters. however, it is only the second consonant that is affected. Compare the plural of (10), shown in (11), to that of (12), shown in (13): while the geminate /kː/ turns to /cː/ in the plural of /ˈlakːos/, in the cluster /xn/ it is only the second consonant that is palatalised in the plural; i.e. /jaˈxni/ does not become */jaˈʃɲa/ in the plural.

(10) /ˈlakːos/ "hole"

(11) /ˈlacːi/ "holes"

(12) /jaˈxni/ "dish cooked with oil and tomato"

(13) /jaˈxɲa/ "dishes cooked with oil and tomato".

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[2] For the alveolars this applies only when /i/ is followed by a more sonorant vowel within the same syllable.

5. Conclusion

In conclusion, both the phonetic characteristics and the phonological behaviour of Cypriot Greek geminates strongly suggest that these geminates must be analysed as non-moraic yet true geminates. So far, no model that insists on the moraic representation of geminates can account for both the distribution of Cypriot geminates and their phonetic timing. One could of course argue that the phonetic data do not provide evidence against the representations proposed by Broselow *et al.* (1997) or Ham (1998), which attempt to fit non-moraic geminates into a moraic framework. Rather, it could be argued that the phonetic data simply show that such representations may not have a bearing on segmental timing to the extent that these authors assume. Even in this case, however, the data do provide evidence against the view that segmental timing is controlled by moraic structure. Instead, it appears necessary to recognize the fact that although quantity and weight are closely linked and go hand in hand in most languages, one does not *always* entail the other. In short, we concur with Tranel (1991) and Hume *et al.* (1997) that a representation involving both a skeletal and a moraic tier is necessary, if phonology is to adequately represent both quantity and weight.

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Clitics and Clause Structure

Abstract

In Medieval Greek and many modern dialects, clitics are syntactically adjoined to an IP projection. In another set of dialects they have become syntactically adjoined to a verbal head. In the most innovating dialects (which include Standard Greek) clitics are agreement affixes. Extending the Fontana/Halpern clitic typology, we propose that the trajectory of lexicalization goes from X^{max} clitics via $X°$ clitics to lexical affixes. The evolution of clitic placement also reveals the rise of a composite functional projection ΣP.

1 Introduction

1.1 The clitic typology

In modern Greek, verbal argument clitics are always adjacent to a finite verb, but in some dialects they always follow or always precede it, and in some dialects they precede or follow it depending on what other material is present on the periphery of the clause. We argue that clitics in modern Greek dialects are of three distinct types:

Type A: X^{max} clitics, syntactically adjoined to a maximal projection.
The clitics of the following dialects are of the X^{max} type: inland Asia Minor (Cappadocia, Bithynia), the Cyclades, some Dodekanese islands (Karpathos, Kos, Astipalaia), two localities on Lesbos (Ajassos, Plomari), Cretan, the Tauro-Roumeic dialects of Ukraine (Marioupoli/Azov), Medieval Greek. All are enclitic.

Type B: $X°$ clitics, syntactically adjoined to a lexical head.
This type of clitic occurs in two forms. $X°$ enclitics are found in the Pontic dialects. spoken in Russia and in Turkey (Greece since 1922, with a small population of Greek-speaking Moslems remaining around Of in Turkey). $X°$ proclitics are found in the town of Kozani in Greek Macedonia.

Type C: lexical clitics, affixed to words.
The clitics of standard Greek are lexical prefixes, as are those of most modern dialects of mainland Greece and of the Western islands, as well as the dialects of Italy.

In general, all the clitics of any given dialect are consistently of type A, type B, or type C. Therefore we can also speak of type A, type B, and type C dialects.[1]

Halpern & Fontana 1994 propose a distinction between X^{max} and $X°$ clitics. X^{max} clitics are maximal projections which adjoin to a phrasal projection and do not require a host of a particular syntactic category. $X°$ clitics, by contrast, require a host of a particular syntactic category. We take this to be the main characteristic of $X°$ clitics. Halpern & Fontana, moreover, claim that $X°$ clitics are in effect inflectional affixes. We argue that there are two types of $X°$ clitics, those that are *syntactically* adjoined to a lexical head and those that combine with their host in the lexicon.

1.2 The phrase structure

Our analysis of clitic positioning in type A dialects is based on certain assumptions about their phrase structure. In this section we briefly motivate those assumptions.

The clause structure of type A dialects is similar to that of standard Modern Greek. Specifically, they share the following properties with SMG: (a) they allow for verb-initial clauses; (b) they have the same distribution of negation and mood particles; (c) a single focused XP or a single emphatic negative element can appear preverbally within the IP; (d) they allow for multiple topics; (e) a preverbal focused XP or emphatic negative is always to the right of any preverbal topics; (f) no argument or adjunct XP can intervene between a preverbal focused XP or emphatic negative and the verb. [1] illustrates properties (c) and (e) for Cappadocian, a type A dialect, and for standard Modern Greek. The discussion of the distribution of clitics in section 2 illustrates all these properties.

[1] a. T óryo m s KANÍNA dén <u>do</u> hereníško
        the work mine to noone   not it entrust
     'I entrust my work to noone.' (Axos, Cappadocia; M & K 182)
     b. Ti δoulja mu se KANENAN δen <u>tin</u> embistevome.
        the work mine to noone   not it entrust
     'I entrust my work to noone.' (Modern Greek)

Uncontroversially, we assume that arguments originate within the VP, and that finite verbs in Greek move from V to the head of TnsP. Following Laka 1990 and Piñón 1993 we assume that the highest inflectional projection is ΣP, a composite of NegP, MoodP, and FocusP. It is headed by negation *(mi, δen, mina)*, if present, and by the mood particles *(na, θa)*, and focused XPs or emphatic negatives can move to its specifier position. Modern Greek has no V-to-C movement hence no word order asymmetry between main clauses and subordinate clauses. Topicalization is adjunction to ΣP and to CP.

All Greek dialects with X^{max} clitics require the phrase structure in [2].

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[1]We know of two mixed systems. Amisos, formerly spoken in Turkey, vacillates between type A and B, and parts of the Dodekanese show a mix of type A and type C behavior. Our analysis predicts that they represent dialect mixture due to contact and/or to migration (and not endogenous change in progress).

[2]
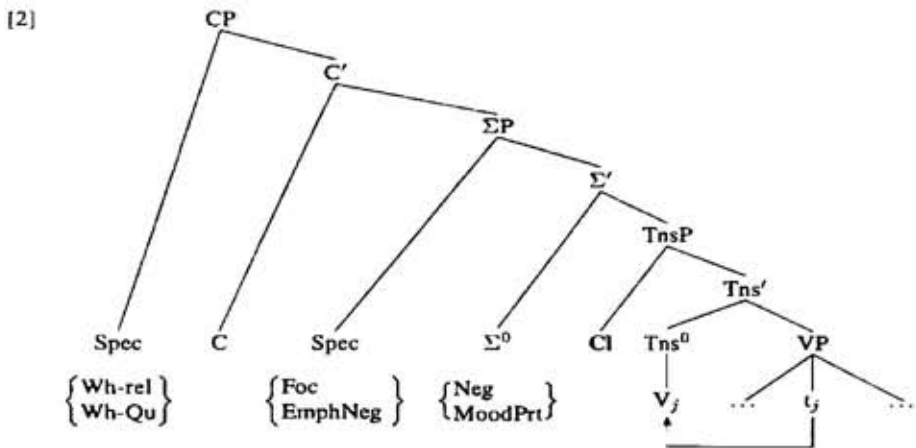
Two remarks on this phrase structure are in order. First, we are agnostic as to whether there are functional projections other than the ones we have indicated in [2]. Secondly, like other approaches which posit these or similar IP projections, we owe an account of the unfilled Spec positions (see Alexiadou and Anagnostopoulou 1998, who argue that these specifier positions are not licensed in null subject languages, like Greek).

In the following sections we show how the positioning of clitics is derivable on the basis of this phrase structure.

2   Type A Dialects: X^{max} Clitics

2.1   The distribution of clitics in A dialects

In type A dialects, clitics appear immediately before or immediately after a finite verb. Dawkins (1916) and Janse (1998) describe the distribution of clitics in Cappadocian as follows, taking in effect the post-verbal position to be the default.

[3]   a. *Main rule:* Clitics directly follow V.

          b. *Special rule:* Clitics directly precede V in the following cases:
                   1. after a negation,
                   2. if V is subjunctive or future,
                   3. after interrogative wh-phrases,
                   4. after relative pronouns (Janse 1998),
                   5. after subordinating complementizers (Janse 1998),
                   6. after preverbal phrases in focus (Janse 1998).

These generalizations hold not only for Cappadocian, but for our type A dialects in general. Significantly, all these dialects conform to the generalizations outlined in the preceding section, which according to us diagnose the presence of a syntactic ΣP projection.

On the surface, it appears that in Type A dialects the clitic or the verb appear in at least two different syntactic positions. We argue instead that both the clitic and the verb appear in a single syntactic position. The distribution of the clitics is a consequence of their syntactic and prosodic properties. Specifically, we claim that clitics originate in (or move to) an X^{max} position, adjoined to a functional projection whose head the verb moves to, namely TNSP. Clitics prosodically subcategorize for a prosodic word on their left within the same CP. Adjoined constituents are not visible for cliticization.[2] If there is no available prosodic host to their left, they encliticize onto the adjacent word on their right by PROSODIC INVERSION (Halpern 1995).[3] According to our proposal then, postverbal clitics are the special case.[4]

Assuming the phrase structure in [2], the distribution of postverbal clitics in dialect A is characterized by the following descriptive generalization:

[4] Clitics are postverbal if and only if there is no (non-adjoined) constituent within the same CP to the left of the clitic.

We show below that the syntactic assumptions in section 1.2 account for the descriptive generalization [4]. To do that, we demonstrate that, under these assumptions, clitics are postverbal exactly when they cannot be preverbal because there is no host for them, in which case prosodic inversion takes effect as a last resort strategy.

2.2   Preverbal Clitics
Clitics are preverbal if and only if there is some non-adjoined constituent within the same CP to the left of the clitic. This may be a complementizer (in $C°$), a Wh-element (in [Spec,CP]), a negation or modal particle (in $\Sigma°$), or a focused constituent (in [Spec,ΣP]}. We take up each of these cases in turn. The clitics are underlined in our examples.

2.2.1   Complementizers
When the sentence is headed by $C°$ with a lexical (overt) complementizer and this complementizer constitutes the rightmost lexically filled position before the clitic, it serves as its host. No prosodic inversion takes place then. The examples in [5] demonstrate this preverbal positioning of the clitic after a variety of subordinating conjunctions. Note the contrast in clitic ordering between the two clauses in [5d].

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[2] This appears to be a pervasive generalization governing clitics in need of a theoretical justification.

[3] An alternative would be to assume that the verb moves to $\Sigma°$ if the Σ and C projections are devoid of any lexical material. What would be the syntactic motivation of such a movement? Terzi (1999), in an analysis of the positioning of Cypriot clitics, which appears to be like that of type A dialects, argues that the clitics need a syntactic licenser and in the absence of any other licenser the verb moves to the highest projection within the IP, (he MoodP, in order to license the clitics. One reason we do not adopt this proposal is that the motivation for syntactic licensing seems rather weak. The set of licensers includes both functional heads, like negation and modal particles, as well as heads of non-functional projections, such as the head of a preverbal focus phrase. It would be a strange licensing requirement that could be satisfied by so disparate a set of licensers.

[4] The distribution of clitics in type A dialects appears very similar to that of Bulgarian. King (1996) has proposed an analysis of the latter that makes use of prosodic inversion as well.

[5] a. **Óp to páĩsge,** îrte éna binár koundá
while him take-PastImp-3sg came-3sg a spring near
'As he was taking him, he came near a spring.' (Ulaghatsh, Cappadocia; D 366)

b. **ton do émaxen**
when it learned-3sg
'when he learned it' (Axos, Cappadocia; M & K 216)

c. **θaró** pos **táfae** ta pitákja
believe-1sg that them ate-3sg the litle pies
'I believe that he ate the pies.' (Pyli, Kos, Dodekanese; D 230)

d. **Ífera toy, γjatí ton íθela.**
brought-1 sg him because him wanted-1sg
'I brought him because I wanted him.' (Karpathos, Dodekanese; Minas (1970))

2.2.2 Wh-pronouns

In relative clauses and in matrix or embedded wh-questions, the specifier of CP is occupied by a relative pronoun or an interrogative wh-phrase. Therefore, a clitic will always appear preverbally in relative clauses, as in [6a], or in wh-questions, as in [6b,c]. Note that, as in standard Modern Greek, the (CP-adjoined) topic in [6c] is to the left of the wh-element (in [Spec,CP]).

[6] a. **op tó draná**
whoever it sees-3sg
'whoever sees it' (Axos, Cappadocia; M & K 57)

b. **tse rotúsen o γénas ton álton índa tus ítθelen o βasiltás**
and asked-3sg the one the other what them wanted-3sg the king
'and they were asking each other what the king wanted them for' (Astypalaia, Dodekanese; D 57)

c. **Eto to beír čís to épken aúča?**
this the stallion who it made-3sg thus
'Who made this stallion like this?' (Delmeso, Cappadocia; D 314)

2.2.3 Negation and modal particles

Negation and modal particles, we assume, are heads of ΣP. Therefore, when such a particle is present, the rightmost lexically filled position before the clitic is Σ°, which hosts the clitic. No prosodic inversion is necessary.

[7] a. **Túči čin góri zarjaní tu enéka rén čin aγápisi**
this the daughter present his wife not her love-3sg
'This daughter his present wife does not love.' (Silli; D 300)

b. **E si skutonu, na mi padreps.**
not you kill-1sg NA me marry-2sg
'I won't kill you so that you find me a wife.' (Plomari, Lesvos; K 492)

The mood particles *na, θa, as* form a phonological word with the clitic even when they are not phonological words on their own. [8b] shows that the particle *na* is stressed, and therefore constitutes a phonological word, just in case a clitic follows it.

[8] a. ás <u>to</u> piáso, ás to kópso, ke kalá ás <u>to</u> fayo
     AS it catch- 1sg AS it kill-1sg and well AS it eat-1sg
     'Let me catch it, let me kill it, and let me eat it right up.' (Ulaghatsh, Cappadocia;
     D 366)
  b. **Deré βαβá m na ért,   ge ná se rotíš ...**
     now father my NA come-3sg and NA you ask-3sg
     'Now my father will come and will ask you.' (Ulaghatsh, Cappadocia; D 366)

2.2.4 Focus

Preverbal focus and emphatic negatives are housed in [Spec,ΣP]. In [9] and [10] such a
focused element constitutes the rightmost pre-clitic position with lexical material. The ex-
amples in [10] are answers to wh-questions, with the focused phrase corresponding to the
wh-phrase of the question.

[9] a. [FOC **Poľi**] <u>do</u> séβdinišge
        much him loved-3sg
     'She loved him much.' (Ulaghatsh, Cappadocia; D 366)
  b. eší tšáoz deré íleyes ké [FOC eyelfó] <u>to</u> éhis   ké ayápanes <u>to</u>.
     you until now said-2sg and   brother it have-2sg and loved-2sg it
     'Up until now you were saying it (the deer) was your BROTHER and you loved
     it.' (Axos, Cappadocia; M&K 192)

[10] a. **Ého   éna korič, k** [FOC ekíno] <u>tópken</u>
      have- 1sg a daughter and   she   it said
      'I have a daughter and SHE said it.' (Delmeso, Cappadocia; D 314)
   b. [FOC **Iyo**] <u>tun án²ksa</u>
        I   him undressed- 1sg
      '*I* undressed him.'
      (Plomari, Lesvos; K 493)

2.2.5 Topic versus focus

A topic alone never attracts a clitic to the preverbal position; see e.g. [11a]. Elements within
ΣP, such as focus, modal particles and negation, follow all adjoined constituents such as
preverbal topics, and they always attract the clitic to the preverbal position, as in [11b,c].

[11] a. [TOP to semayéften | ípan   <u>mas ta</u> (topic)
        that got-3sg engaged told-3pl us it
      'That he got engaged, they told us about it.'
      (Axos, Cappadocia; M & K 85)
   b. [TOP to psófsen t aloyo] [FOC deré | <u>t</u> akúo (topic and focus)
        that died-3sg the horse   now   it hear
      'That the horse died, I only heard it *now.*'
      (Axos, Cappadocia; M & K 85)
   c. [TOP to na yazandóso útsa pollá | dén <u>d</u> ómza (topic and negation)
        that NA win-1sg   thus many not it hoped
      'That I would win so many, I didn't hope for it.' (Axos, Cappadocia; M & K 85)

2.3 Postverbal clitics by prosodic inversion

When the specifier and head positions of CP and ΣP are empty, there is nothing for the clitic to cliticize to, so that prosodic inversion obligatorily moves the clitic after the first word, which, given the syntax, is the verb. The simplest case of postverbal clitics, illustrated in [12] by examples from four type A dialects, arises when the clitic is syntactically CP-initial.

[12]   a. **Púlsa <u>ta</u>   ta dévja.**
           sold-1sg them the Devs
           'I sold them to the Devs (spirits).' (Ulaghatsh, Cappadocia; D 378)

       b.**Vreíšten <u>do</u> ké gelétzepsan.**
           called-3sg her and talked-3pl
           'He called her and they talked.' (Axos, Cappadocia; M & K 216)

       c. ŏókašé <u>d</u>   éna ftiró
           gave-3pl him a   w-ng
           'They gave him a wing' (Plomari, Lesvos; K 490)

       d. **Ekamé<u>masto</u> énas ftoxós γéros**
           made us it   a   poor   old man
           'A poor old man made it for us.' (Demirdesi; Dang 176)

Because *ke* 'and' and other coordinating conjunctions are outside CP, a clitic which syntactically follows such a conjunction also undergoes prosodic inversion.[5] This is shown by the examples in [13]:

[13]   a. č ékani <u>dun</u> limnⁱ
           and made-3sg him lake
           'and turned him into a lake.' (Ajassos, Lesvos; K 485)

       b. **Amé nžuloftoná <u>ton</u> t afendikón tu tsé ŏnžóxni   <u>to</u>, tsé léi <u>tu</u> ...**
           but is jealous him the master   his and send-3sg away him and tells him
           'But his master is jealous of him and sends him away telling him...' (Astypalaia, Dodekanese; D 56)

A clitic need not be strictly CP-initial in order to undergo prosodic inversion as adjoined constituents are invisible to cliticization. Since topics are adjoined, a clitic that immediately follows an argument topic syntactically undergoes prosodic inversion in Type A dialects. [14] illustrates this.

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[5] The fact that coordinating conjunctions do not host clitics is the reason why we believe clitics require their host to be in the same CP, rather than an alternative requirement for a host within the same intonational phrase.

[14] |TOP Tó líko | rótsan <u>do</u> ...

    the wolf asked-3pl him

    'They asked the wolf...' (Axos, Cappadocia; M & K 182)

In addition to argument topics, adjunct topics (that is, adverbial modifiers) can adjoin to the ΣP, with prosodic inversion under exactly the same conditions:

[15] |TOP símer to purnó | |TOP Pour na paén, | ekamén<u>des</u> m éna lóo t éna spit

    today the morning   before NA leave-3sg made-3sg them with one word his a house

    'This morning, before he left, he made them a house with one word.' (Demirdesi; Dang 176)

    In order to justify this analysis, it is important to be able to identify a preposed constituent as a topic. Topics serve certain discourse functions, and non-subject argument topics trigger clitic doubling, as in standard Modern Greek. Therefore, a clitic related to a topic will appear postverbally if there is no appropriate preverbal material within the same CP to host it. The predicted correlation is documented for a range of cases in the examples below. In all of these cases Modern Greek supports preverbal topics as well. First, subsectional anaphors are topics.

[16] Énas patíšahos íhe tría perjá. |TOP Ta rjó | díkisén <u>da</u>.

    A   king   had three sons   the two married-3sg them

    'A king had three sons. Two of them he married off.' (Ghurzono, Cappadocia; D 340)

A clitic immediately following a contrastive topic in the syntax, as in [17], appears postverbally:

[17] ekínos píren ti vasilé tin gor   ke [TOP to γambró | edosán<u>don</u> tin aδrefí t

    he   took the king the daughter and   the bridegroom gave-3pl him the sister his

    'He married the king's daughter and they married (the would be) bridegroom (of the king's daughter) with his sister.' (Demirdesi; Dang 220)

A shift in narrative perspective can be introduced by a new topic. In that case too, if there is no other material between the topic and the clitic, the clitic will appear postverbally.

[18] |TOP Imis | ipθíkamé <u>dun</u>, pírami mnʲa várka či píγmi či pjásamé <u>dun</u>

    we   fell sorry   him look-1pl a   boat and went-1pl and caught-1pl him

    'We felt sorry for him, we took a boat and went and saved him.' (Plomari, Lesvos; K 495)

3 Type C Dialects: clitics as word-level affixes

3.1 The distribution of clitics in C dialects

In type C systems, clitics directly precede the finite verb whose arguments they are. The properties of type C dialects are well known from Standard Greek. The pattern is illustrated in [19].

[19]   a. **Tis**   **to**   **ipa.**
       her-gen it-acc said-1sg
       'I said it to her.'

      b. **Tis**   **to**   **exo**   **pi.**
       her-gen it-acc have-1sg said
       'I've said it to her.'

This pattern is widespread in mainland Greece; the examples in [20] illustrate that the Greek dialects spoken in Italy also conform to it.

[20] Salento(Profili 1999)

Mu   **svuddhìete e** **mitti mia bbelletza.**
me-Gen discharge   the nose one beauty

'My nose is clear, just like that.'

3.2   Deriving the distribution of clitics in C dialects

We assume that type C have the clausal structure [2], like type A dialects. They differ from type A dialects only in the properties of clitics. In type C dialects, clitics attach lexically to the left of the finite verb, we assume in virtue of lexically subcategorizing for a phonological word on their right. As part of the finite verb, they move with it to TNS°. Specifically, we propose that they are word-level affixes (not stem-level affixes, like the subject agreement morphemes of Greek), which attach in the morphology to words, forming larger words.

     That clitics in standard Greek are lexical affixes has been argued by Joseph 1988 on the basis of phonological and morphological evidence. A syntactic argument is that they do not combine lexically with non-finite verbs. It is virtually a definitional property of agreement morphemes that they are affixed only to finite verbs. For example, subject agreement in all Greek dialects are restricted to finite verbs. If object clitics are lexical agreement morphemes, we can understand why they obey this restriction; otherwise it remains unmotivated.

     A second argument that clitics are lexical affixes in type C dialects is that conjoined verbs cannot share a clitic. If clitics were syntactically adjoined to a V° head, then in principle they should be capable of being hosted by a conjoined V° head (as they in fact are in the dialects where they are X° categories, such as Pontic and Kozani, see below). Sentences like [21] are however ungrammatical in C dialects (in the intended interpretation).

[21]*to eliose ki ehase
    it melted and lost
    'She melted it and lost it.'

4   Type B Dialects: Syntactic X° Clitics

4.1   Pontic clitics are always postverbal
In Pontic dialects, the placement of clitics is easily stated: clitics are always postverbal (Papadopoulos 1955, Oikonomidis 1958, Drettas 1997), even in environments where they are preverbal in the other dialects (see section 2.2):

[22] ti𝛿en kʰj leɣne men (Negation)
  nothing not tell-3pl me
   'They tell me nothing at all.' (Dr 632)

[23]   a. as akugna ta ek   deftern   (Mood particle)
          AS hear it from second time
          'Let us hear it a second time.' (Dr 632)
        b. prin apoθán prép na 𝛿ijse   vesaǽt (Mood particle)
          before dies   must NA give-3Sg you testament
          'Before he dies, he must give you his testament.' (Dr 380)

[24] ondas telion   ato (Complementizer)
  when   finish-1sg it
   'when I finish it' (Trapezounda; P 224)

[25] do les   me (Wh-interrogative)
  what tell-2sg me
   'What are you telling me?' (P 159)

[26] ekino [FOC eɣo] exer ato (Focus)
  that   I   know it
   'Only I know that.' (Trapezounda; P 224)

4.2   Pontic clitics are not suffixes but X° enclitics
Clearly, Pontic clitics are *enclitic* rather than *proclitic*. Drettas (1997) claims that they are object agreement suffixes (see also Janse 1998). We think that Pontic clitics require a syntactic analysis. Our proposal is that they are phonologically enclitic (just as in type A dialects), but they are of category X° rather than of category X^{max}. Consequently, they are are head-adjoined to V°, rather than adjoined to the functional projection that the verb heads, and their syntax differ from that of Type A clitics accordingly. The X° status of Pontic clitics is supported by the following three arguments.
      First, in the perfect, clitics in Pontic are attached to the infinitive, not to the auxiliary:

[27] an ihame ndosne se, ihes   maθine to maθema s
  if had-1pl beaten you had-2sg learned the lesson yours
   'If we had beaten you, you would have learned your lesson.' (Trapezounda; P 174)

Since lexical agreement affixes (morphological argument clitics) go only on finite verbs (section 3.2), this shows that clitics are not agreement affixes.
      Secondly, conjoined verbs may share a clitic, which then always appears to their right.

[28] a. esegen to vutoron s son furnin k elisen k ehasen a.
　　　 put-3sg the butter in the oven and melted and lost it
　　　 'She put the butter in the oven and melted it and lost it.' (Adissa Argiroupoleos;
　　　 P200)

　　　 b. ekomboθen k exegen k eθeken aton sima t
　　　 was duped and look out and put her near him
　　　 'He was duped and took her out and put her near him.' (Trapezounda; P 22)

This sharply contrasts with standard Greek, where the clitic is obligatorily repeated in such cases. The behavior of clitics in conjunction thus confirms that they are lexical in standard Greek and syntactic in Pontic.

　　　 The third argument comes from phonology, which shows that clitics are not part of the same lexical word as their hosts (though they are surely part of the samae postlexical word). The argument is based on a stress contrast between simple long words and words with attached clitics. In simple long words, when the lexical stress is before the third syllable, rhythmic alternating stresses are asigned to the word (e.g. *éklapsa, éklapsáne, ekimímunéstine*). However, no such additional stresses appear in clitic sequences, as explicitly stated by Papadopoulos (1955:32). If clitics were lexical suffixes, this difference would be incomprehensible.

　　　 In support of his claim that Pontic clitics are affixes, Drettas 1997 argues that they combine with their hosts in phonologically idiosyncratic ways. Drettas' principal argument is that third person object forms such as *fáisen, fázaton* cannot be derived by phonological rules.[6] In order to assess this argument, consider the paradigms of *fazo* 'feed' *pleko* 'knit', *siro* 'drag', and *vrexo* 'rain' in Pontic.

[29]

		/faz-/	/plek-/	/sir-/	/vrex-/
1.sg	/-o/	fázo	pléko	síro	vréxo
2.sg	/-is/	fáis	pléks	sírts	vréis
3.sg	/-i/	fáz	plék	sír	vrếs
1.pl	/-omen/	fázomen	plékomen	síromen	vréxomen
2.pl	/-eten/	fázeten	pléketen	síreten	vréseten
3.pl	/-ne/	fázne	plékne	sírne	vréxne

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[6] As Drettas (1997:100) puts it: "On voit que ces phénomènes, obligatoires dans le cadre d'un paradigme donné (en l' occurrence, la conjugation d'un verbe), ne reproduisent pas forcément des contraintes phonologiques et que, par conséquant, on ne peut rendre compte au moyen d'une partie "règles phonologiques" de la langue; nous avons affaire à des faits morphologiques qui seront présentés avec les unités concernées (par example. l' article, l' objet verbal, etc.)." Drettas also advances a weaker argument, based on the claim that there is no phonological explanation why *faz* 'feeds' plus -*sen* 'you' is realized *fáisen*. He claims that avoidance of the prohibited sequence *-*zs*-can't be the reason because one could achieve that by other means, for example. by inserting *e* into the cluster. We think that (his argument is fallacious for two reasons. A process is not unmotivated just because *another* process might have achieved the same end. On the contrary, there are almost always multiple ways of avoiding constraint violations. For example. prohibited consonant clusters can be avoided by epenthesis, deletion, lenition, assimilation, or metathesis. A language may use several of these devices under different conditions. depending on the ranking of its other constraints. Secondly. the argument presupposes that the motivation *faisen* is the avoidance of the sequence *-*zs*-. But, as discussed in the text. the process has a different etiology.

We propose to show that regular phonological processes of Pontic account for these inflectional patterns, and that the same regular phonological processes apply to clitic combinations as well.

The alternation of x and š in *vréxo, vréxomen* versus *vréšeten, vréxne* is due to an automatic palatalization process $x \longrightarrow š$ which applies before a front vowel: a sequence $*xi$ is impossible in Pontic. The same palatalization process also accounts for 3.Sg. *vréš.* Apocope of final *i* is a productive phonological process in Pontic. It is motivated by such contrasts as /podári/ *podár* 'foot' versus /podári-mu/ *podárim* 'my foot', with retention of *f-i* in the latter form because it is not final. The rule seems to be automatic, in that no phonological phrase or phonological word can end in *-i*. Thus, we posit the third person ending as /-i/, which triggers palatalization in /vréx-i/ —> *vréší*, and is obligatorily apocopated.

From this much it is clear that the derivation is as follows.

[30]

1 Sg.	/fáz-o/	—>	*fázosen*
2Sg.	/fáz-is/	—>	*fáis*
3Sg.	/fáz-i/	—>	*fáz*
1Sg.2Sg.	/fáz-o-sen/	—>	*fázosen*
1Sg.3Sg.	/fáz-o-aton/	—>	*fázaton*
2Sg.3Sg.	/fáz-is-aton/	—>	*fáisaton*
3Sg.2Sg.	/fáz-i-sen/	—>	*fáisen*
3Sg.3Sg.	/fáz-i-aton/	—>	*fázaton*

The indicated phonological derivations require only independently motivated automatic processes of Pontic. First, the realization of 2Sg. /fáz-is/ as *fáis*, and 3Sg.+2Sg. /faz-i-sen/ as *faisen* is due to a regular process of Pontic that Papadopoulos 1955:13,26 calls "anameiosis". Without exception, the sequences /-Vsis-/ and /-Vzis-/ are realized as -*Vis-* in Pontic. This holds even for underived lexical items, such as the names *Anastasis —>Anastais, kurnazis—> kurnais, Karagiozis —>Karagöis,* and similarly *Thanais, Thodois, Kondofois* etc. Since /x/ and /s/ merge before /i/ by palatalization, the process predictably applies also to /-xis/ sequences, e.g. /vréx-is/ *vréis* (cf. *vréxo).* Of course, it is more than likely that "anameiosis" is a complex process decomposable into a sequence of elementary steps. A plausible derivation is /fáz-is/—> *fázis—>fázis —>fáis* (Malikouti-Drachman and Drachman 1977, Fatima Eloeva, p.c.).[7]

As for 3Sg.+3Sg. /faz-i-aton/—>*fázaton,* this is derived by vowel contraction (synalepha) /i,e+a/—> ä, /ie+o/ —>ö. This is also an automatic postlexical phonological process in Pontic, which applies also across word boundaries, as Papadopoulos (1955:11) makes clear. Finally, 1Sg.+3Sg. /fazo-aton/ —> *fázaton* is a straightforward case of elision of a vowel before another vowel, also a process which applies regularly in Pontic, within and across words.[8]

We conclude that verb + clitic combinations are derived by phonological processes which apply within words and across word boundaries, and which are exceptionless, as far as the evidence shows. If so, the phonology of Pontic clitics is consistent with X° cliticization, and Drettas' argument for their affixal status does not go through.

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[7] Perhaps the haplological avoidance of ...$C_1 VC_1$... sequences is a contributing factor. Drettas 105 cites evidence that such a haplology process applies productively across word boundaries, e.g. *avúta la peδia* —>*avúta peδía.* We emphasize that our argument depends on the fact that /-sis/ and /-zis/ sequences are systematically reduced to -*is* in Pontic, not on any particular theoretical analysis of that process.

[8] E.g., *ámonto eksérts píson* —> *ámont eksérts píson* (Drettas 78103).

5   The diachronic perspective

5.1   Lexicalization

The generalization that syntactic combinations may become grammaticalized (or reanalyzed) as lexical, but not conversely, implies that the three dialects are historically related as follows:

[31]   System A $\xrightarrow{\quad\quad\quad\quad}$ System B $\xrightarrow{\quad\quad\quad\quad}$ System C

$\qquad\qquad X^{max} \rightarrow X^{\circ} \qquad\qquad\qquad X^{\circ} \rightarrow$ Affix
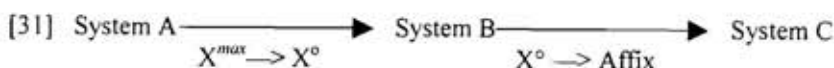
The system of the A-type dialects must be the most archaic of the three. The dialectological picture itself suggests that the A-dialects are archaic because of their peripheral location. More compellingly, the fact that they occur as enclaves in a number of isolated areas within B- and C-dialects, as relics of an earlier wider distribution of the A type.[9] But perhaps the most telling fact is that the syntax of A-dialects is closest to the medieval Greek system, as sketched out in Mackridge (1993). (We demonstrate this in the full version of this paper.)

The original X clitics, then, have become X° in Pontic, and affixes in Western Greek, in conformity with known tendencies of change.

Now we are in a position to concretize the often raised question whether syntactic change lakes place catastrophically or by small stepwise increments. In the case at hand, we can ask whether Western Greek developed directly from a type A system where clitics are X^{max} categories, or whether it passed through an intermediate Pontic-type stage of syntactic X° cliticization.

If both Western Greek and Pontic were directly descended from the common ancestral Type A system with X^{max} clitics, we would have no explanation for why one of them developed proclitics and the other enclitics. It is more likely that they developed from systems with X^{max} clitics which already differed syntactically, in such a way that "Proto-Pontic" had predominantly postverbal clitics (which were lexicalized as X° enclitics in modern Pontic), and "proto-Western Greek" had predominantly preverbal clitics (which developed into the type A and type C proclitics). In the following sections we attempt to trace these respective paths of development.

5.2   Pontic

A dialect with the hypothesized "proto-Pontic" properties is already implicit in our historical analysis. It is simply koine and early medieval Greek prior to the emergence of ΣP. This dialect would have had the phrase structure in [32].

[32] Proto-Pontic:

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[9] This is not to exclude the possibility that some such enclaves might have arisen by later contact or migrations as well. One likely case of migration is the dialect of Amisos, which has mixed A/B properties. It is known that Amisos, in the Pontic (type B) area, had an influx of refugees from Cappadocian Caesarea (who would have spoken a type A dialect) after the fall of Constantinople in 1453 (Xristopoulos 1974:179a).
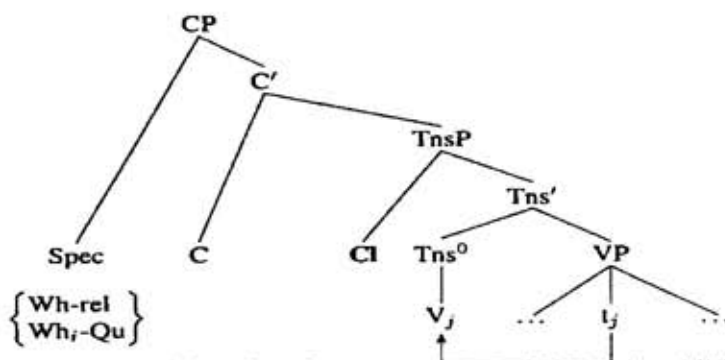
A dialect with such a phrase structure would have, in addition to postverbal clitic placement in declarative main clauses, certain other characteristics. Whenever the finite verb does not raise to TNS, and raising to C is blocked by a lexical Comp, subordinate clauses should be verb-final. Germanic-type "double complementizers" occupying Spec-CP and C (such as OE/ME *when that)* might occur. Multiple preverbal negatives, positioned in situ with the verb in clause-final position, would be expected, as opposed to other dialects, where emphatic negatives move to [Spec,ΣP].

At least some of these characteristics, including postverbal clitics and multiple preposed negation, are attested already in medieval documents from the Pontic area. In deeds to the monastery of Vazelon (south of Trebizond), we find:

[33] Medieval Pontic (Ouspensky and Bénéchevitch 1927)

 a. **ton de tópon edôkamén <u>soi</u> eis toùs eksês kaì dïenekeîs xrónous**
  the Prt place we gave you in the following and everlasting years
  'we have given you this land in perpetuity' (O & B, deed dated 1260)

 b. **hoson diaphérei <u>mou</u>**
  how much belongs me-Dat
  'as much as is my share' *(ibid.,* dated 1435)

 c. **tinán típote ou xreostô**
  nobody nothing not owe-1Sg
  'I don't owe anyone anything' *(ibid.,* dated 1291)

In fact, these latter characteristics mark Pontic syntax even today, suggesting that it may still retain a structure with no ΣP.

In a system such as [32] where V raises to C in main clauses, the majority of clitics will end up in postverbal position. In such dialects, lexicalization from X^{max} to X° would naturally give rise to enclitics, as in Pontic.

These considerations suggest that Pontic dialects diverged at an early stage of Medieval Greek, and that the other Greek dialects underwent a period of further common development (which included the rise of ΣP) before in turn splitting off into the ancestors of the Cappadocian dialects and the Western Greek dialects.

[34]

The implication that the Pontic {type B} dialects split off from the rest of Greek quite early, and that type A and type C dialects underwent a period of common development is consistent with Dawkins' (1940) suggestion that the Pontic dialects were separated from the rest of Greek as early as the 11th century by the Seljuk conquests in Asia Minor, whereas the Cappadocians were cut off several centuries later by the Ottomans.

5.3 Kozani: the missing link

As the immediate antecedent of standard/Western Greek we posit a system B', where clitics already precede the verb, but still retain their syntactic $X°$ status, like the Pontic clitics. In at least one dialect, system B' survives to this day.

For two modern dialects, Kontosopoulos (1994:53,101) reports that clitics are placed between the auxiliary and the participle: Kozani (Macedonia) and Chios (off the coast of Asia Minor).

[35]   a. íxan ts vaps (Kozani)   tus íxan vápsi (Standard Greek)
        had-3Pl them painted
        'they had painted them'
    b. íxen me piási (Chios)   me íxe piási (Standard Greek)
        has-3Sg me caught
        'he has caught me'

We hypothesized that these dialects instantiate our predicted "missing link" between types A and B, that is, $X°$ proclitics. This makes several syntactic and phonological predictions. In order to check these predictions, Kiparsky et al. (2001) visited Kozani to interview a speaker of the dialect. Their findings confirmed our expectations.

Kiparsky et al. (2001) found that in the Kozani dialect clitics may be placed either before the auxiliary, or between it and the main verb. This does not seem to be an alternation between standard Greek and the dialect, but a genuine option within the dialect itself.

Our first syntactic prediction is that conjoined verbs may share an $X°$ clitic, as in Pontic. Specifically, whereas Pontic's shared enclitics always follows the verb conjunction (see [28]), in Kozani we expected that its shared proclitics would *precede* it. This is what we find.

[36]   a. n ída ke xerétsa
        her saw-1Sg and greeted-1Sg
        'I saw her and greeted (her)'
    b.*ída ke t xerétsa
        saw-1Sg and her greeted-1Sg
        'I saw and greeted her'

c. n ída   ke t xerétsa
   her saw-1Sg and her greeted-1Sg
   'I saw her and greeted her'

In most cases the deletion (though ungrammatical in standard Greek) is preferred.

[37]   a. íxan ts   vaps ki ftiaks
        had-3Pl them painted and fixed
        'they had painted and fixed them' (preferred)
    b. íxan ts vaps ki ts ftiaks
        had-3Pl them painted and them fixed
        'they had painted them and fixed them'

Thus, Kozani constitutes the mirror image of Pontic:

[38]

Pontic   *Kozani*

[39]

Pontic   *Kozani*

A second syntactic consequence is that VP-adverbs may intervene between the auxiliary and the clitic, but nothing may intervene between the clitic and the following nonfinite verb.

[40]   a. íxan keró ts   vaps
        had-3Pl already them painted
        'they had already painted them'
    b.*íxan ts   keró vaps
        had-3Pl them already painted
        'they had already painted them'

This follows on the plausible assumption that VP-adverbs are at the left edge of VP, and that the VP is the complement of the auxiliary.

[41]

Kiparsky et al. also give two phonological arguments. One comes from stress. In verb forms which bear lexical stress before the antepenult, a second, equally prominent stress is assigned to the penult, in order to avoid a stress lapse, as in [42a]. No such stress is assigned in cases like [42b].

[42] a. éfagámi
        ate-1Pl
        'we ate'
      b. íxame to vaps *(not* *ixamé to vaps)*
        had-1Pl it painted
        'we had painted it'

The reason is that in [42b], the sequence *ixame to* is not a word either lexically or postlexically, according to our analysis. Therefore it is cannot be assigned word stress at any level of the phonology.

The second phonological argument comes from a general process voicing assimilation of [s] to [z] within lexical words.[10] Voicing assimilation does not apply across a clitic boundary, which shows that clitics and their hosts do not form a lexical word.

[43] /exis mas xerétisa/—> [ex's mas xerétsa] 'you've greeted us'

The Kozani dialect also has *enclitic* pronouns, such as possessive clitics. These seem to have the status of lexical suffixes, just as in standard Greek, as shown by both voicing assimilation and stress.

[44] /ðikos mas/ —> [θkozmas] 'our own'

Thus the hypothesized B' system is confirmed. It remains to be seen how widespread it is, and in particular whether the Xios dialect is similar to that of Kozani.

More importantly, our prediction that the B' system is the immediate antecedent of the standard/Western Greek B system remains to be verified by historical data from earlier stages of Greek.

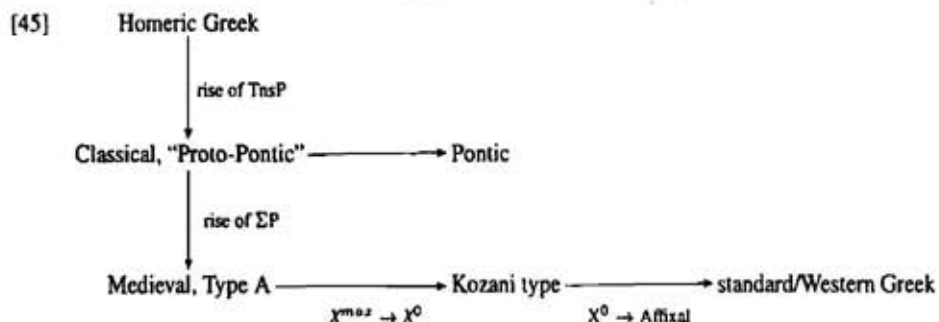### 5.4 Summary of the historical development
In the full version of this paper we attempt to reconstruct the evolution from the two medieval systems back to the Homeric language. Our proposal is based on the reinterpretation of Taylor

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[10]Across word boundary, [s] assimilates to [z] only before the voiced fricatives [β] and [δ].

(1994) proposed by Kiparsky (1996). In Homeric Greek, we suppose that no IP (whether TNSP or ΣP) is syntactically projected. Consequently, X^{max} clitics at that stage are adjoined to CP, where they undergo prosodic inversion if necessary to satisfy their enclisis requirement. This is to say that Homeric clitics are second position (Wackernagel) clitics.

In later classical Greek, a syntactic IP (specifically a TNSP, we assume) is introduced. Clitics (still of the X^{max} type) adjoin to this lower projection, while finite verbs may move to C. This is the "proto-Pontic" system, in which clitics are predominantly postverbal. Pontic develops from it by the first stage of lexicalization of X^{max} clitics, by which they became X^0 clitics, with enclitic status.

The dialects from which Western Greek arose developed a ΣP projection, while still at the X^{max} stage. This is the stage seen in medieval Greek, which persists in the modern Type A dialects. From this starting point, lexicalization of X^{max} clitics resulted in a Type B' (such as still attested in Kozani). The second stage of lexicalization, by which clitics became affixes, then resulted in the Type C systems of standard and Western Greek. This scenario is summarized in the following syntactic stemma of Greek dialects.

[45]

```
        Homeric Greek
              |
        rise of TnsP
              |
              v
  Classical, "Proto-Pontic" ──────────→ Pontic
              |
         rise of ΣP
              |
              v
  Medieval, Type A ──────────→ Kozani type ──────────→ standard/Western Greek
                    Xᵐᵃˢ → X⁰              X⁰ → Affixal
```

Implicit in this schema is the possibility that the clitics might become (or have become) affixal in some dialect of Pontic. Such an innovative dialect of Pontic would have the following characteristics:

[46] Hypothetical C dialect:

    a. Clitics are postverbal (as in Pontic): *exi ta* 'he has them'
    b. Clitics attach to finite verbs only (unlike Pontic): *exi to kani* 'he has done it'
    c. Clitics must be repeated in each conjoined verb (unlike Pontic): **na fero ke trog' a* 'I' ll take and eat it'
    d. Verb+clitic combinations are stressed like lexical words (unlike Pontic): **ésiren atona* 'he threw him'
    e. Verb+clitic combinations may show lexical idiosyncrasies (unlike Pontic).

5.5 Implications

The dialect evidence shows that distinction between affixal and X^0 clitics is minimal and irreducible. On the one hand, we found no intermediate systems to support Janse's claim that the distinction between clitics and affixes is a gradient one. On the other hand, Halpern

and Fontana's two-way classification of clitics, which identifies X° clitics with affixes, is not fine-grained enough, and should be replaced by a ternary one. Standard Greek clitics are lexical (as Joseph proposed), but Pontic clitics are syntactic X° (contra Drettas 1997). Kozani in particular provides virtually a minimal pair to the standard system.

One the historical side, our findings suggest that change is neither catastrophic (as Lightfoot claims) nor gradient (as was suggested in some early work on grammaticalization). Rather, change proceeds in *minimal discrete increments*. Moreover, it is striking that none of the changes that our theory posit leads to abrupt discontinuities in the output. Each step in the reanalysis or grammaticalization process modifies the language in ways that are not salient to language learners (not to speak of dialectologists).

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CONCRETE MORPHOLOGY, AFFIX TYPOLOGY, AND CONCORD CHAINS

Abstract

The paper begins with the prediction that rich verbal morphology (concrete morphology) for tense allows for a second clause-internal subject position. But the prediction fails for all stages of Greek. Although the concrete morphology hypothesis is justified in the end, we are nevertheless forced to re-evaluate the Greek verbal augment under grammaticalisation theory. The paper proceeds to integrate these conclusions into a cross-dialect typology of affixes resting largely on the alternating dominance of the two constraints a) Non-Finality of a stress-trochee and b) Metrical Consistency (rizotonicity), whereby verbal endings in some Greek dialects de-grammaticalise. We conclude with a novel approach to multiple exponency, reinterpreting the shifts in the status of the affixes in terms of shifting semantic dominance in the concord-chains for 'past'.

Part I Concrete Morphology and Syntax

Suppose a morphological paradigm is robust if (almost) all instances of a given semantic content are realised with phonological content. We now claim that the existence of overtly rich or concrete morphological paradigms (CM) is prerequisite to certain syntactic processes, e.g. XP movement as in Germanic Scrambling or head movement as in Romance V-Raising. But, and this is the first topic of the present paper, they may also be critical to the full activation of certain syntactic projections in first language acquisition. We begin by documenting and discussing the failure of a prediction from CM for Modern Greek (MGk) and Ancient Greek (AGk), and the consequences for the status of the augment, in history and across the contemporary dialects.

Suppose then that an overt and rich paradigm for Tense is prerequisite to the full syntactic projection of TnsP that enables transitive expletive constructions (with two Subject positions) of the kind found in the Icelandic equivalent of 'There drank the Norsemen much wine'.

MGk is a good case to begin with. Since it is the only morpheme uniquely representing 'past'[1], the verbal Augment (cf. é-kana vs. káno) might well be the required primary morphological category triggering the full TenseP projection. But the syntactic consequences, i.e. the Icelandic type Transitive Expletive Construction, with its additional

---

[1] Even though redundancy considerations suggest the Category Past is realised in both the augment and the secondary endings (cf. Hamp's 1961 discontinuous morpheme). The main tense contrast was perhaps indeed originally in the endings; the augment arose in a coding-enhancement function but declined when prosody made it opaque/defective. Modern German, where enhancement (Umlaut+vowel) is NOT a preferred coding for plural (see Keglevic, to appear), emphasises that enhancement is but one potential strategy of morphological distinctivness. See section 3 for amplifications under concord-chain theory.

Subject position, is NOT found[2].   The question is, how are we to interpret this apparent failure of the concrete-morphology hypothesis?

Reinterpretation 1

We might conclude that not a concrete-paradigm but rather an abstract N-Strength feature on Tense is the trigger for the projection of SpecTnsP. Then despite the overt augment-paradigm evidence, the Greek Tense head lacks the relevant strong N-feature, and the Tense projection merges with that of Agr, thus disallowing a separate SpecTns position[3].

But (following the   earlier exploration in Drachman 2000) we claim that although the surface syntactic facts do indeed   imply there is no SpecTnsP position in Modern Greek, the CM hypothesis is not thereby falsified, and thus the reversion to an abstract 'strength' feature on the tense head is unnecessary. For the MGk Augment paradigm clearly does NOT show the robustness prerequisite for the activation of SpecTnsP, in fact on nine counts, as may be seen in:

a)   Since the loss of vowel length, the 'temporal'-augment[4] is lost in vowel-initial verbs.

b)   the Syllabic augment (with consonant-initial verbs) was a victim to prosody – the underspecified vocalic morpheme being realised phonetically almost entirely under stress, thus in é-kan-a, marginally in ?e-kán-ame, but certainly not in *e-skup-ís-ame, *e-grafómuna.

c)   with some derivational prefixes, alternations such as ipévale ~ ipó-vale (cf. Mackridge 1985) are found, and there is even a semantic distinction between kalo-é-pjasa 'I grasped s'thing well' vs. kaló-pjasa 'I flattered'.

d)   It was also liable to the constraint requiring an Onset, cf. the erosions in (i)méra, (a)yeláda, etc.

e)   It is realised optionally in close liaison with clitics, as in é-δosa but to-é-δosa~tó-δosa.

f)   It is excluded, even where it woluld have been prosodically justified, in verbs showing past-stem allomorphs in -i-, as: vjíka, vríka , bíka, píra, píga.

g)   The morpheme may even be semantically empty as in the present stems of verbs like katevázo, katevéno, and anevázo, anevéno (for AGk kata+bibázo:, ana+bibázo:), as also in MGk θa peri+sin+e+léksun.

h)   The unstressed augment is found in MGk with literary loans such as:
e-stáli, e-prókito, e-léxθi.
cf. 'internal' immediately prestressed position with derivational prefixes as in:
eks-e-pláji, sin-e-lífθi.

i)There is some sporadic and speaker specific tolerance for the augment even further from the stress, as in: e-varéθika.

---

[2] Notice that the evidence (cf. Alexiadou-Anagnostopoulou (1995) shows that constructions with a post-verbal subject, as in iparxi enas nanos ston gipo, do not involve a null (expletive?) subject either.

[3] Cf Alexiadou &Anagnostopoulou (1995) among others.

[4] Survivals are reflected only in relic allomorphs with initial stem-vowel alternation: elpízo – ílpiza, érxome – íltha.

Yet there is an important prediction implicit here. viz. that a Greek-dialect with a stable/robust/rich independent augment paradigm will exhibit the syntactic construction referred to, through activation of the debated SpecTns position for that dialect. We briefly recapitulate the history and the dialectology of the Greek Augment, emphasising the degree of P-robustness of the paradigm for each case. First, the history[5].

Mycenean is problematic, perhaps because of scribal conventions, showing practically no augment[6] even though the script always indicates word-initial vowels. So since even in earliest Gk the verbal endings always show fusion rather than separation of Tns & P/N, one might reasonably conclude that no SpecTP need (and thus could) occur. On the other hand, Homer and the lyric poets are hard to judge. They usually omit the augment – or exploit it for metric purposes. It may be that what they exploit is simply a still-current option on the augment[7]. If this was so, then no TP need (hence, may) be postulated. However, Classical Greek is an excellent candidate. Classical Greek from Herodotos is traditionally said to show an obligatory overt augment, regardless of stress placement or other sub-paradigm variation. The span includes

    a) syllabic   ἔ-λυσα, ε-λύσαμεν, ε-λυσάμην, ε-τε-τιμήκη.
    b) 'temporal' ἤλπιζον, ηλπίκη, ὶκετεύκη.

Overall, the augment paradigm in AGk is thus quite robust, perhaps even more consistently so than other (allomorphically richer) inflectional elements[8].

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[5] Setting aside here the question whether or not such a particle (originally a stressed adverbial injunctive particle to which the verb cliticised) existed in the Indo-European background – partly depending on how the Mycenean data is interpreted, see below.

[6] The one surely attested augmented form is: a-pe-do-ke from New Pylos (PY305). plausibly interpreted as apo-e-doke. The attempt has been made to dismiss this form by reinterpreting it as ap-ek-doke. But since IE seems to have had (the origins of) the augment, as attested also in Sanskrit and Armenian, the null hypothesis would be that earliest Greek certainly had an incipient form of it. We thus suggest the non-occurrence of further examples results from a scribal convention concerning the empty/default one-mora (unspecified) vowel realised as [e] in the augment elsewhere. This [e] is not normally written in Mycenean: certainly not with V-initial verbs, where length is not transcribed; but also not even where it would make up the appropriate prosody for stressing eg. 'doke' *e-do-ke. It is thus only written where it makes an open syllable (our a-pe-do-ke), and even there this vowel is in competition with the prefix-final vowel, as seen in the a-pu-do-ke alternant. Thus we predict the Mycenean augment can only show with complex verbs. The point remains, that the augment is certainly not P-stable in Mycenean.

[7] The augment was never omitted however if a short monosyllable would have resulted (Schwyzer 1939. GG i, 651). Cf Armenian where the augment is kept in the 3sg. aorist, but only when a verb with initial consonant would be monosyllabic without it (Meillet 1936. 123f. cited in Szemerenyi 1996:296-7)

[8] We emphasize below the gaps and opacities, concluding that the augment paradigm was thus not robust (enough) even in AGk.

In late Koine, the unstressed augment survived. But with the loss of the vowel-length distinction, vowel-initial verbs could no longer show a phonetically overt moraic augment, even if it continued to be written and a few relics survived. And Byzantine Greek similarly shows a persistent unstressed augment[9].

Now to the contemporary dialects. Some of the modern dialects show a partially P-robust paradigm - i.e. with the syllabic augment obligatory, regardless of stress, but of course mainly only relic forms (of course as stem allomorphs) with the 'temporal' augment. For examples see the data below for Cyprus, Pontus and Chios.

Cypriot (Newton 1972)
The syllabic augment is obligatory regardless of stress in Cypriot texts
What 'temporal' augments survive? Relic forms only, which of course are synchronically only stem-allomorphs. The only survival reflects the AGk a: > e: alternation.
Thus a-initial verbs show free alternation with e-, as in:

     agórasen~ egórasen.
But o,e,i-initial verbs show no augment-effect whatever, as in
   órpisa, erotéftin, ipóferen.
Thus, one may hardly speak of a P-robust augment in Cypriot.

Pontic (Drettas 1997)
a) the syllabic augment is again obligatory regardless of stress, as in: pézo é-peza, kalačévo
    e-kaláčeva.
b)even with Prep-prefix + augment + cons-initialVerb, as in:
    ana-stenázo en-e-sténaza (with the usual Turkish stem-to-affix vowel harmony)
c) the 'temporal' augment is again seen as stem-allomorphy, with a-initial as well as
   o-initial verbs, as in:
    axparázo - expáraza, orgóno – érgona.
Thus Pontic can also hardly be said to show a robust augment paradigm.

SE peripheral
According to Triandafyllides (1936), both augment variants survive in Chios, as also in parts of the Cyclades and Dodecanese.
In S.Chios (Pernot 1946) all verbs show the augment. C-initial verbs have augment allomorphy under stress, as in í-grapsa vs e-grápsame. But V-initial verbs have stem allomorphy for Past, as cf. agorázo egórase.
Thus -- the augment paradigm is again just as defective as before.

---

[9] At least one text (Horrocks 1997:255) as late as the beginning of the 9th. century AD shows survival of the (syllabic) augment in unstressed position. For the period 11th-15th century, Manolessou-Nifadopoulos (1999) show that while most V-initial prepositions in complex verbs take both internal and external augments, it seems that external (hence unstressed) augments continue to be common.

Conclusions on the augment · story and dialects)
As we saw. the degree of robustness of the augment paradigm varies over the span from full (only AGk) lamed in later Greek and some dialects (as above, Cypriot > Pontic> Chios) to prosodically bound (Standard MGk), to perhaps zero (Mycenean). Nevertheless neither classical nor Standard MGreek, nor indeed any of the contemporary dialects shows a single one of the syntactic consequences of the projection of SpecTnsP: no Transitive Expletive Construction is found, in either SVO or VSO structures.

We might conclude, as some did for Standard MGk, that this again constitutes massive evidence for the impact on syntax of the 'strong vs. weak' features referred to, rather than of concrete morphological paradigms. And it would follow that Greek simply lacked and still lacks the strong N-feature on TnsP, regardless of the degree of robust concreteness of the M-paradigm.

But of course this is by no means the only way to interpret the evidence[10]. We now indicate alternative lines of approach. First, we will question the P-robustness of the augment paradigm in even the best case, i.e. Agk. And second, we will even question the traditional assumption that the Greek augment is inflectional, and this in terms of a grammaticalisation hypothesis, whereby the augment was only a clitic or tense-stem-derivational morpheme in AGk; it remained so for some later dialects, while others like Standard MGk grammaticalised it further to Infl.

Reinterpretation 2.
On the down side, the AGk augment paradigm is good but not immaculate, as follows:

a)   the (poetic) choruses of Attic tragedy sometimes omit the augment, recalling the option in Homer.
b)   There are exceptions to obligatoriness, viz. Attic V-initial stems with e-initial Pluperfects lack a length-augment e.g. Smyth (1956:446, 447aN, 566).
      Perf om-o:moke: Pluperf o:- m-o:moka.
      But elegk^h-o: e-le:-leg-mai not *e:-le:-leg---
c)   Attic reduplications always omitted the augment.
d)   Also important are not a few cases of opacity, whereby the forms originally having initial digamma (W-) or s- show the higher vowel e^: (<ei>) as in
      Wergazomai cf. eirgasame:n 'work', *serpo: cf. eirpon 'creep'.
e)   And further cases of variation concern verbs with intial diphthongs: thus
      eurisko: cf. eureθe:n ~ e:ureθe:n 'find'.

The AGk augment paradigm was far from fully robust. In addition, recall here that the Agreement side of the contrast Tns vs Agreement is not uniform either: although the semantic distinction past vs. non-past is nearly always present (see Sec. 3 below), the

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[10] We recall that concrete-morphology (viz. full paradigms of verb inflection for P/N) does in fact correctly predict the potential occurrence of both pro-Drop and verb-raising not only in much of Romance but also throughout the history of Greek. On the other hand, it must be granted that a similar treatment of Germanic Scrambling across Icelandic, Dutch, etc. (Roberts 1997, Rohrbacher 1999) has proved problematic. Roberts resigns himself to abstract strength for this latter case, though in a sense abstract strength could discourage further research in our case.

primary vs. secondary endings are syncretistic as between P/N and Tns. We will let the syntactic reflexes decide, as the child must, taking only the strongest case, that of AGk -- with a full augment paradigm (syllabic and 'temporal'). If the augment was inflectional, then there was a (one-sided) concrete-morphological contrast between Tns and P/N. This independence of Tns would have constituted the proper trigger for an independent SpecTenseP. But the syntactic consequences mentioned above are simply not found in AGk either.

Reinterpretation 3

We now suggest that a way out of this dilemma for AGk (returning to the dilemma for Standard MGk and the dialects in a moment) is to claim that the AGk augment was not part of the Inflectional system at all. Rather, considering its source as an injunctive adverbial, in grammaticalising along the cline Word-Clitic-Affix, the AGk augment had not reached the univerbation[11] stage of inflectional marker. It is however not clear whether it had thereby only become a clitic or advanced to the status of a derivational-morpheme[12].

Reinterpretation 4. Later history: Stress domains and grammaticalisation

We just suggested a reanalysis of the early augment in terms of grammaticalisation. This idea we now explore wrt its later history. To facilitate this, however, we will appeal to the notion stress domain: this notion was first exploited for Greek in Drachman & Malikouti-Drachman 1994 (and recall the Polish case cited above). It is clearly exemplified in pairs such as miso-anixtó vs. mis-ánixto, and even showing semantic constrast as in Imperatives like para-grápse 'writing again and again!' (para as word) vs. idiomatic parágrapse 'cross it out!' (para as clitic or a derivational prefix), or compounds like paljo-filos 'lousy friend' vs. idiomatic paljófilos 'buddy'. We claim that stress domains are thus diagnostic of the

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[11] cf. the Polish example in Andersen (1987), and the commentary on that case of univerbation of verb and clitic in Hopper & Traugott (1993:136-8)

[12] Digression on criteria: Are there any sure stigmata in favour of clitic vs. derivation?

a) As clitic

   i) clitics are supposedly unstressable: but the AGk augment was stressed if it fell within the stress-domain of the verb, viz. if antepenultimate with a final light syllable

   ii) where 'past' is indicated, the augment is obligatory, even if unstressed.

   iii) with unambiguous semantics descended from its adverbial history.

   iv) its position is fixed, as left-edged in the (complex) verb.

   v) As inflexional, it would be 'outermost', and should thus close off the word to further affixation. But then what of the sequences Prep+augment+verb?

b) as stem-deriver

Could the shift from the adverbial 'past' word [e] have skipped the clitic stage, so that the augment became a derivational morpheme in AGk, with the status of a past-stem-maker? Then:

i) there is no independent word of which the augment is a short form.

ii) the prefixed augment is in complementary distribution with the traditional suffixed present-stem-formatives −t-, -N-, and −sk-.

iii) as left-edged the derivational augment would 'include' the reduplicating aspectual (Perfect) marker (e-le-lu-ke:).

iv) as derivational, it would allow for further deriving Prep+Aug+verb

distinctive stages of gramm .calisation, and offer us a dimension or cline of change through the trichotomy {word-clitic-inflection}.

Now for the augment paradigm. In such an analysis, dialects retaining the obligatory augment -- -é-kana and e-skupísamen (Pontic, Chios) have only cliticised/ derivationalised the augment, while Standard MGk (and Zagori, etc. see below)-- with é-kana and skupísame but NOT e-skupísame -- have gone further, with full grammaticisation under Infl. But reaching the stage of inflection carried a heavy price, viz. the augment-as-inflection became almost fully constrained by prosody. As a result, paradoxically enough, in Standard MGk and other relevant dialects, the augment paradigm became seriously non-P-robust. (For the problems of stress-alternation as an exponent of Past tense, see Sec. 3 below)

Conclusion to Part I

Thus, for all stages of history and for all Greek dialects: where it remained non-inflectional, say as a derivational prefix, the augment paradigm is irrelevant to the projection of SpecTns; and where it became inflectional by grammaticalisation, the paradigm is non-robust. In either case it fails to activate the projection of a SpecTnsP position. The negative consequences for the syntax of Greek follow.

Notice in passing that we have in effect re-interpreted Joseph & Janda (1988): they assumed that phonologisation as in Kaisse (1982) constituted a putative degrammatic-alisation, and were concerned to counter this move -- which they did by emphasising the exceptions. We agree that this was not a case of degrammaticalisation. Indeed, so much so that our re-interpretation in fact turns the case into one of successive grammaticalisations. However, Part II deals with the verbal endings in Greek, indeed in terms of de-grammaticalisation.

Part II. The Typology of Affixes

We now consider whether a dialect typology based partly on de/grammaticalisation and extended to endings and post-clitics can deliver an integrated account of the relevant affixations. The Polish case mentioned above, showed the grammaticalisation process of Aux-Verb > inflectional endings, as seen in their incorporation into the canonical 'penultimate stress' domain. The claim here is, that the status of the verb endings in Greek show cross-dialect variation parallel but complementary to that we showed for the augment; in this case the stress facts shows us that P/N affixes behave sometimes as inflectional but sometimes as non-inflectional. We will suggest (against conventional wisdom) that the latter case is reasonably interpretable as de-grammaticalisation.

Taxonomy

Now compare the verb-forms below, showing the wide spectrum of surface behaviour of endings and post-clitics in the dialects (cf. Malikouti-Drachman & Drachman 1992), where we see that the distinction between endings and clitics is a very fluid one.

a) inflectional endings (taking 1sg. vs. 1pl. forms) respect the non-final-trochee constraint, whereas clitics (illustrated with the Imperatives below) show a further troc hee:

Standard MGk: Active: táraza tarázame.

                     Medio-Passive (M-P) tarázome tarazómaste.

                     Imperative (Imper.)   táraze! tárazé-to!

b) inflectional endings do not respect Non-Finality. Like clitics, they show further stressings in some Northern dialects (e.g. Siatista, Meleniko):

     táraza tárazàmi   M-P tarázumi tarázumèsti   cf. Imper. tárazè-tun!

c) inflectional endings may behave like clitics wrt stress domain, but without provoking further stressing (e.g. Aetolia):

     táraza   tárazaman   MP tarázumi   tarázumasti   cf. Imper. táraks-tuni!

d) ditto, provoking further stress, and destressing of the stem:

     (Samos) kéumi kiumásti (showing the raising of the unstressed vowel)

e) post-clitics behave like inflectional endings:

     pés-te-mu > pé-m-ti from Katafigio, and cf. Pashto & Portugese cases cited in Drachman (1998) -- the clitic –m(u)- is attracted to the stress, preceding the ending

f) some dialects (W. Macedonia) even show the analogical influence of the clitic paradigm on the segmental makeup of M-P imperative inflectional endings (Thavoris 1977):

     Standard MGk Imper. sg. kimí-su!   pl. kimiθíte! but

     Dialect forms   kimí-su! but   kimí-sas! Cf clitics 2sg -su, 2pl –sas.

We propose to interpret the variation on the right edge of the stem, as we did with that on the left: for the augment, prosodification was seen as grammaticalisation, and now for the endings, de-prosodification will be seen as de-grammaticalisation. First consider the stress system in MGk. Reflecting the heavy finals of the AGk present tense, MGk present is now stressed on the stem-final syllable (e.g. of consonantal-stem verbs); and, reflecting the short syllables of the AGk past, past now shows the default Non-Final Trochee constraint, the so-called tri-syllabic stress.   Thus where the Non-Final trochee constraint holds, the stress domain potentially includes verbal augment, stem, and also the endings. But there is an opposed force, the Metrical Consistency constraint (rizotonic stress), by which stems which are morphologically related in paradigms should be identical (cf. Bybee 1985, Benua 1997, Burzio 1997). This detaches the endings from the main stress domain via deprosodification, seen here as degrammaticalization. Now consider the consequences of Metrical Consistency, wherever it occurs. Metrical Consistency neutralises Non-final trochee (in Med-Pass, Zagori below, or for Active and Passive, in Northern dialects, Velvendos below). Or it may even neutralise stress-position as a tense exponent (see Pontic below). Note that, as distinct from the endings, pronominal post-clitics **always** constitute a separate stress domain, outside the influence of Non-Finality. They may or may not trigger recursive stressing, cf. Standard MGk (as also Spanish) with clitic stress, vs. Cypriot (as also Italian) without.   Detached endings behave in an exactly parallel fashion to pronominal clitics – they may or may not trigger recursive stress.

We come at length to our comparison between the contemporary dialects, for which see also the tabular overview 'Parameter Variation across Dialects', further below.

For Standard MGk, the augment as discussed above is now an inflectional element, whose phonetic appearance depends on the syllable-count of the individual verb form. Non-Finality is dominant, so that Metrical Consistency can play no role. Thus while the clitics trigger recursive stressing, the endings themselves stay in the main stress domain. We now take some representative dialects, to show not only the parallels between grammaticalisation of the augment and degrammaticalisation of the inflectional endings, but also the variation in the latter -- seen as a scale or cline of degrammaticalisation.

Take first Cypriot. The 'syllabic' augment is obligatory here, as also e.g. in Chios and Pontic (below). Non-Finality dominates Metrical Consistency, so that the endings remain in the main stress domain, as for Standard MGk

Active: xorízo e-xórizen.
M-P: xorízete Pres. 3sg ːxorístin Aor. 3sg., exorizúmastin Imperf. 1pl.

But by contrast with Standarː MGk, a post-clitic remains unstressed, as in egórasen-to. And the verbal extension --te similarly remains unstressed, as in (Newton 1972:83):
na tes klépsumen-te

For Chios in turn, Non-Finality dominates generally. The Non-Finality stress alternation between sg. and pl. (íxasa but e-xásame) blunts the force of Metrical Consistency, which however is still seen in plural forms.

Active Aor. í-xase í-xases í-xase : pl. e-xásame e-xásete e-xásan.
M-P   érkome érkese érkete   pl. erkómaste erkósta erkónda.

Clitic stressing is recursive as in e-fónazén du, é-kusá-ton. Detachment of the endings from the main stress domain in Chios does appear, in the optional CV-extension; however (unlike its parallel in Cypus) it behaves like a clitic, provoking further stressing. Cf. agapithíkame but also agapithíkaméne, and not *agapithíkámene.

For Zagori, the augment is prosodified, as also in Velvendos below. Characterıstic is that Non-Finality and Metrical Consistency alternate across Voice. Thus:

Active has dominant Non-Finality, cf. Aor. Tím()sa t()mísaman.
But M-P has dominant Metrical Consistency and thus detached endings:
Pres. 1st. sg. pidévumi, but 1st/2nd pl. pidévumasti pidévusasti.

Where Metrical Consistency applies, in M-Pass, detached endings remain unstressed. Notice that the maximal application of Metrical Consistency would neutralise Non-Finality altogether and so wipe out the tense opposition (cf. Pontic below). Suppose we claim that this is why it under-applies in the Active past – we still get tím()sa vs t()mísame. But what about the M-Passive? Here we find the past identical with the same sub-paradigm of the present.

Taking now Pontic, where Metrical Consistency dominates Non-Finality. The resultant detached endings do not undergo stress recursion (a) , and neither do clitics (b) below.

a) é-pleks-amen.
b) é-legan-aton.

Note that when Metrical Consistency dominates Non-finality, giving rizotonic stress, as in a) below, it could in principle apply maximally and thus neutralise the stress alternation not only within but also across the tense (non-past vs. past) paradigms. This however proves to apply to only a small class of verbs such as pérno, fázo, rúzo etc. (Drettas 1997:213) -- compare the more general case of pléko as in a) below, where Metrical Consistency across tenses is under-applied. The critical forms to compare are under b). Resonant-final verbs on the other hand have Metrical Consistency for each aspect paradigm (pres/imperf. vs. aorist) as in c). In a word, Pontic represents stage 3 of the detachment of endings (cf. Velvendos, see further below).

Active	Present	Imperf.	Aorist	
1sg.	a) pléko	épleka	é-pleksa	1pl épleksamen
	b) péro	e-pérna,	e-péra	
	fázo	e-fázna	e-fása	
	c) stílo	e-stílna	é-stila,	
	sírno	e-sírna	é-sira	

The (synchronic) preference for maximal Metrical Consistency applies only to a small class of verbs in Pontic (as mentioned) and not more generally, even though the stress alternation is here only part of the concord set, and not the main carrier of 'tense, 'as we show below. Moreover, where it does apply maximally, this depends on the nature of the stem-final consonant– it must be a Resonant. Thus the arbitrary sacrifice of the stress-alternation and hence the tense distinction without compensation/repair demonstrates convincingly that Metrical Consistency is not a constraint e.g. 'especially adapted to ease in acquisition' as Benua 1997 claimed, as distinct from an entirely arbitrary constraint such as Non-finality. For Non-Finality and Metrical Consistency each has its pros and cons. Non-Finality preserves the integrity of verbal endings, yet leads to tense-neutralisation in Med-Passive paradigms, as in Standard MGk M-P Pres/Imperf. 1 & 2 pl. erxómaste erxósaste. On the other hand, Metrical Consistency might make first language acquisition simpler by unifying paradigms metrically, yet complicates the grammar, by degrammaticalisation of verbal endings from their stems. What is crucial in comparing dialects, then, is only the dominance relation between the two constraints; this determines dialect variation but seems to vary across dialects, a topic to be discussed elsewhere.

We complete our mini-survey with a typical Northern dialect, viz. Velvendos (Boundonas 1892). Here Metrical Consistency is dominant. In addition, both detached endings (a) and clitics (b) below are recursively stressed:

a) 1sg.vs. 1pl. Imperf. éfaga éfagámi, érxumun érxumástun.
b) kitaksétin.

Velvendos thus reaches yet a fourth stage on the scale of detachment, and this a clear case of degrammaticalisation.

PARAMETER VARIATION ACROSS DIALECTS

	AUGMENT	NON-FINALITY/ METRICAL CONSIST	STRESS RECURSION ENDINGS ‖ CLITICS	
SGK.	Prosodified	N-FIN	--	YES
Cyprus	Obligatory	N-FIN	--	NO
			Ext-end	NO
Chios	Obligatory	N-FIN MC for Plur	--	YES
			Ext-end	YES
Zagori	Prosodified	N-FIN in Active MC in M-Pass	-- NO	?
Pontos	Obligatory	MC ea Tns MC across Tenses	NO	NO
Velvendo	Prosodified	MC	YES	YES
Etolia		MC	NO	NO

To come full circle, we revert to the parallels with our treatment of the augment, viz. parallels and contrast between the grammaticalisation by prosodification that we mentioned earlier from the Polish studies in Andersen (1987) and illustrated in some detail from the transition from AGk to MGk. Comparing now the prosodic detachment of endings, we note a gradient: fully in Velvendos, half-way in Zagori (only in M-P), minimal in Chios (only extended endings), and none at all in Standard MGk. These differences surely show us the hierarchies or cleavage lines of change, on which more research is required. Here we will rest the argument on cases of full detachment, where endings behave like Standard MGk clitics, viz. where they are recursively stressed. These are the clearest candidates for degrammaticalisation, as found in Northern dialects like Velvendos.

Now if we indeed have to do with degrammaticalisation, it would of course contradict the U-grammaticalisation directionality hypothesis of Hopper & Traugott (1993), Lehmann (1995) among others. And this case can hardly be assimilated to Roberts and Schlonsky (1996)[13], cf. Roberts & Roussou (1999). So consider whether degrammaticalisation can be branded as simply a complication of the grammar, as implied in Roberts and Roussou 1999:

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[13] Roberts & Schlonsky showed for Welsh and Semitic, and Doyle 1999 for Irish that such a reversal of directionality may indeed obtain, and without contradiction: provided the shift is one from lexical (affixation, as for infl and derivation) to functional (projection, as for clitics) –, the shift may in fact be looked on as grammaticalisation. The present case does not readily fall into this framework, largely because we lack syntactic data relevant to assigning a projection status to these 'clitic'-like endings.

notice that although Metrical Consistency truly isolates endings, but it also guarantees at least metrical uniformity in the stem. As for the syntactic consequences, the requisite rich syntactic analyses of Velvendos-type Greek which one might query are unfortunately not yet available.

Part 3. On Concord-Chains

We now take up the topic of exponency and (de)grammaticalisation -- and a reappraisal of 'past'. The parallel between the early augment and the later verbal endings as affix types invites us to consider finally the relation between these affixes and other exponents of 'past' in history and the dialects, looked on as a mutually enhancing one. Although Greek supposedly shows multiple exponents for tense, we want first to claim that the augment (whether as clitic or derivational) was in AGk the dominant syntactic exponent of Past, while other morphemes also representing 'past' constituted its concord (or enhancing) set. Consistent with our position on concrete morphology in Part I above, the 'dominant' exponent is that with the most robust (concrete) morphological paradigm. For the diachronic change in the relation 'dominant' to 'concordant', the members of the concord set may be neutralised, or the relation dominant vs. concordant may even be reversed – one degrammaticalised and another grammaticalised. We consider the following potential past-tense exponents: augment, stress-alternation, endings -- setting aside here the question of the enhancement function of theme-vowels as in gráps-o-me vs gráps-a-me, the past-tense morphemes as in agap-ús-ame vs. agap-ág-ame, or stem allomorphy as in páo píge, béno bíke, vjéno vjíke etc. We illustrate this perhaps novel approach informally, from AGk and Standard MGk only.

Changes in Standard Modern Greek

For Ancient Greek

The augment was obligatory, and we believe either a clitic or a stem-forming derivational morpheme. In the balance between the multiple exponents of Past, the augment was dominant by virtue of its robustness and semantic uniqueness, being even on occasion the sole exponent of past (Joseph-Janda 1988 cite paidéu-omen vs. e-paidéu-omen). The (fused) endings only show concord, the primary and secondary complex exponents corresponding to non-past (no tense, thus purely P/N), and past (P/N and tense), but with the aorist and Imperfect endings showing an additional, aspectual element in the allomorphy in Past/P/N concordance. These constitute the worst scenario, and in fact we predict the endings could never alone distinguish tense; thus we have:

AGk lú:o: é-lu:on (never *lú:on); nomíz-o: e-nómizon (never *nómizon).

Changes in Standard Modern Greek

This sub-system underwent a shift as the augment-as-past paradigm wasted away, first through the loss of vowel length and thus disappearance of the 'temporal' version. This decay was furthered by the rise of new Tense-dependencies of prosodic nature. First, the presence of the augment became prosodically bound. Second, the stress-positions automatically dictated by the different weights of the primary (heavy) and secondary (light) endings in AGk were faithfully inherited in primary language acquisition despite the loss of vowel length. Thus a further exponent of Tense arose, viz. stress-alternation, and this became the dominant exponent of 'past' for many dialects, including Standard MGk. The endings, even though more unified since the merger of the Imperfect and Aorist in most

dialects, remained concordant owing to their semantic non-uniqueness. In turn the augment, thoroughly degrammaticalised in many dialects, was left as a poor relation, a third concord particle subject for its presence to the vagaries of word-length interacting with the (non-final trochee) stress system. The dominance vs. concord configuration had in effect been inverted, the augment made occasional, even its enhancing function having become quite insecure[13].

It might now be feasible to formalise this change in terms of shifts in the concord-chain, as for the negative cycle in Roberts & Roussou (1999). For English and French, they propose three historical stages for the syntactic concord-chain. Thus:

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                Stage I        II                III
English:   ic NE sege > I NE say NOT > I say NOT
French:    jeo NE dis   Je NE dis PAS  Je dis PAS
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As against the syntactic concord of the English and French cases, the Greek case involves what we will call a morphological concord-chain, whose history might in turn be represented as follows:

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I    PAST=Augment + Stem + endings(concord)
II > Aug (conc)        + PAST=stress-alternation + endings (conc)
III > Aug~0 (conc)     + PAST=stress-alternation  + endings (conc)
```

Notice that while the scope-commanding element might be P-reduced even to zero for both English and French, for Modern Greek the concord-augment, when present, would now lie outside the scope of the dominant Past-as-stress-alternation, as in skupíz-o e-skúpiz-a. This suggests of course that scope-considerations cannot be applied to morphology.

And finally, though we claimed in Pt I that the Standard MGk augment is in Infl, we have now shown the semantics of 'past' in Standard MGk to lie dominantly in the stress alternation. We do not yet see how to reconcile these two claims. We may relate the output problem 'Past as stress-alternation' to the definition of the relevant concrete M-paradigm via the stress algorithm already mentioned: but augment and the stress-alternation exponent can hardly both stand under Infl-Tns. We thus foresee the need to distinguish between semantics (say, of past) and its sometime-corresponding morphology (here, the augment).

Concluding remarks

First, there was and is no independent SpecTense position in Greek. Even where the augment is obligatory (AGk, Pontic) it constitutes a clitic or a derivational morpheme and not an inflectional head. On the other hand, the prosodified/gramaticalised Infl augment of

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[14] Cf. MGk conditionals like makári na éleges tin alíθya 'if only you would tell the truth', θa éleges óti X 'You would say that X'. Further evidence is seen in occasional (singular) Imperative forms such as ipégrapse edó!, or apèdiksé mu! The latter phenomenon may be analogical to the optional absence of the augment in aorist forms like ipógrapse xthes 'he signed yesterday'. But the umbilical cord to prosody remains evident; the alternation, in both imperative and aorist, occurs only in the singular, with unmarked (non-final trochee) stressing.

later MGk constituted a non-robust paradigm which was thus subordinated to stress-alternation as the dominant exponent of tense. Neither Tns nor Agr trigger subject positions, which explains the lack of expletives (transitive and otherwise), as also the fact that Subjects in SVO structures in Greek are necessarily Topics.

Second, the dialects may be grouped not only in terms of grammaticalisation, for the augment; where Metrical Consistency dominates Non-Finality it may cause degrammatical-isation of the verbal endings, creating complementarity in the synchronic status of the augment and endings.

And finally, on the dominant Pasts and their concord sets, the overall function/meaning vs. concord configuration has been reanalysed in Standard MGk and some dialects. Here we speculate on the very general need to distinguish semantic functions from their putative morphological realisations.

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ON THE ORIGINS OF MODERN GREEK IN SOUTHERN ITALY

Abstract

In Southern Italy two Greek-speaking "islands" still survive, whose origins (from ancient Hellenism of Graecia Magna or from Byzantine Greek?) originated a long, heated debate in Italy. Aim of this work is to understand both scientific and ideological reasons for the debate which arose in Italy and to bring some new evidences supporting the ancient origins of Italian Greek.

1. In Southern Italy two Greek-speaking "islands" still survive: one in Southern Apulia (*grico*-Greek), the other in Southern Calabria (*bovese*-Greek).

It is to be noted that they are not the only Italian linguistic areas in which a non-Italian dialect is spoken. For instance, in Southern Italy there are some Croatian and many Albanian linguistic islands and their origins are certainly medieval (due to movements for reasons of trade relations, because of the Turkish invasion of the Balkan Peninsula, etc.). As a consequence, also the Greek-speaking islands could have similar origins and actually their conditions do not differ from those of the Croatian and Albanian islands. There are only a few, generally elderly, speakers and these languages have a limited sociolinguistic status in relation not only to Italian, but also to the Italian dialects surrounding these islands. However these are present conditions. In the past the circumstances were very different.

With the exception of just a few words, neither the Croatian nor Albanian dialects seem have transferred anything to the neighbouring Italian dialects as regards, for example, phonology, morphology or syntax. The influence of Greek, although nowadays cancelled, has been very important through the centuries and in an "underground" way continues to take place also in the present. In other words, the Croatian and Albanian islands give the impression that they are encapsulated in a very extraneous environment, but it is impossible to understand the development of Romance in the extreme South of Italy without taking the age-old influence of Greek into account.

2. From G. Rohlfs on, the literature regarding the influence of Greek on Southern Italian Romance is unlimited. Here, I shall restrict myself to three points:
- The Italian dialects of southernmost Italy have received from Greek a very large number of words, often in relation to domains which are usually impervious to loan-words, e.g. the terminology of family relationships (cp. Southern Calabria [pap'pu / pap'pua] 'grandfather' < Greek παππούς, [sim'pessaru / sum'pessaru] 'son's / daughter's father-in-law' < Greek συμπέθερος) or the terminology relevant to the human body (cp. Southern Calabrian [mi'liŋga / mi'niŋga] 'temple' < Greek. μιλίγγι).
- The same dialects show a large number of linguistic calques which are modelled on Greek; for instance: «La question très banale qui sert à vous demander votre âge, dans les langues romanes est exprimée par le verbe 'avoir', p.ex. en français *quel âge as-tu ?* [...].

Dans les langues balkaniques cette question se fait avec le verbe 'être', p.ex. en grec πόσων χρονῶν εἶσαι, en roumain *de câti ani eşti ?*, en albanais *sa vjeç je ?*. Et c'est justement de la même façon qu'on s'exprime dans l'extrême Sud de l'Italie, p. ex. en Calabre *di quant'anni si ?*, en Terre d'Otrante *di quant'anni sinti ?*, c'est-à-dire 'de combien d'années es-tu ?'» (Rohlfs [1990], 345).

- In the same dialects we can observe the so called *impopolarità dell'infinito* (unpopularity of the infinitive), so that, in accordance with Greek but not Italian (and generally Romance) patterns, we find a construction with a conjugated verb instead of the infinitive. For instance we have ['ɔɟɟu (ku) 'bbau] (Southern Apulia) / ['v ɔ ɟɟu ma / mu 'vau] (Southern Calabria), word for word 'I want that I go', that is 'I want to go'. Cp. (likewise) Greek θέλω να πάω but (in a different way) Italian *voglio andare* or French *je veux aller*, with the infinitive.

As regards these three points, much more exhaustive examples are offered especially by the works of G. Rohlfs. I shall note here that Greek influence does not limit itself to the Romance dialects which surround the Greek-speaking islands but shows up at a great distance from them. E.g., the construction of the type θέλω να πάω is found in a range of at least 50 kms from the Greek-speaking villages in Apulia, reaches a distance of about 120-150 kms, as the crow flies, from the Greek-speaking villages in Calabria (cp. Catanzaro *vòggju ma dòrmu* 'I want to sleep', word for word 'I want that I sleep'; Rohlfs [1990], 329) and appears across the sea, in Sicily, at least in its northeastern corner (cp.Milazzo *si spòggja mi si kúrka* '(s)he's stripping to go to bed', word for word '(s)he's strips that (s)he goes to bed'; Rohlfs 1974, 105). This is in a area where nowadays there are no longer any Greek-speaking peoples.

Although set at zero at the present time, the influence of Greek on Italian dialects
a) has been considerable;
b) reaches a great distance from the current Greek-speaking islands.
   This means:
a) the sociolinguistic relation between Greek and Romance has changed: if it is to the advantage of Romance now, before it was to the advantage of Greek;
b) it is a realistic hypothesis that Greek was spoken in a much wider area than the present one.

As far as the last point is concerned, the case for a previously more widespread use of Greek in Southern Italy is supported also by extra-linguistic evidence. There are various reports of pastoral visits and accounts of travellers, etc. Since the discovery of this type of information fundamentally depends on chance, other documents could very well come to light. There are two examples, which are not found in Rohlfs 1933, or in Rohlfs 1974, because they have become known to the scholars only in more recent years.

- Not long after the middle of the twelfth century, the Jewish-Spanish traveller Benjamin ben Yonah, on a journey to Palestine, passed through Taranto in Apulia and expressly defined its inhabitants as Greek (Colafemmina 1975, 99).

- In the mid-sixteenth century, a Swiss traveller, Iodocus Meggen, who was on his way back from Palestine, landed in Calabria and noticed that from Crotone downwards «Calabriae maritimam oram multi Graeci inhabitant, sua lingua degenere utentes» (cp. Mosino 1977, 207 f.). This information is interesting because it reveals to us that during the sixteenth century Greek-speaking peoples still lived on the coast of Calabria, whereas from

the nineteenth century to ...oday Greek survives only in the impassable valleys of Aspromonte (= Gk. Ασπρόβουνο).

To sum up, the present Greek-speaking communities of Southern Italy are, let us say, the tip of the iceberg, i.e. the last, fading evidence of a vigorous linguistic exchange between Greek and Romance, which has lasted many centuries.

So, we have reached the core of the problem. For how many centuries?

3. If we consider that:
- the extent of medieval Hellenophony (which we can reconstruct on the basis of linguistic and extralinguistic evidence) significantly agrees with the extent of the Byzantine rule in Southern Italy;
- the extent of the Byzantine rule in Southern Italy significantly agrees with Graecia Magna;
the question arises: does mo lern Greek in Southern Italy come from Byzantine Greek or does it come from Greek spo :n in Graecia Magna?

I think that in Greece this .. a false problem. But in Italy the point of view for a long time was completely different (and partially this is still so).

To understand the reason for this, let us begin with the German scholar G. Rohlfs, who first not in a absolute way but in his energy and in his knowledge of the circumstances brought up the problem: cp. at least *Griechen und Romanen in Unteritalien* (1924) and its Italian translation (actually, a new work) *Scavi linguistici nella Magna Grecia* (1933 = 1974).

Unlike the contemporary Italian scholars (and, as a general rule, unlike all the contemporary scholars), G. Rohlfs knew very well the linguistic state of Southern Italy. He had travelled all over this region in order to collect the linguistic materials for the *Atlante Italo-Svizzero* (= AIS) and so he had understood the extensive influence of Greek on the Romance dialects in extreme Southern Italy.

It is worthwhile noting that the German scholar makes his proposal (that is, present Italian Greek comes from ancient Greek spoken in Graecia Magna) very cautiously, step by step. The present scarce sociolinguistic weight of Italian Greek is not able to justify the large presence of Greek patterns in the Italian Romance of the extreme South. This presence can only be justified by a wide extent of medieval Hellenophony, which we can reconstruct on the grounds of various extra-linguistic evidence too. Medieval Hellenophony widely coincides with the ancient Hellenism of Graecia Magna. Therefore it is plausible to link modern and medieval Italian Greek to the ancient version.

However, despite his caution, Rohlfs' proposal exploded in Italy like a bomb. Italian scholars do not only refuse to accept it, often very severely, but also go as far as to consider the German scholar somewhat obsessed, if not even crazy. For instance, in his review of *Griechen und Romanen*, C. Battisti writes: «non so vincere l'impressione che l'Autore nella valutazione di questo materiale sia stato portato a conclusioni che oltrepassano gli estremi d'una logica deduzione» (Battisti 1927, 3), that is: «I can not get over my impression that, in assessing this material [i.e., the material which had been collected for the AIS], the Author has drawn conclusions which are well beyond the limits of a logical deduction».

Where does this strong dissent originate from?

Let us consider the special historical period. The Twenties and the Thirties are a period of heated Italian (and not only Italian) nationalism: Italy has just won the First World War, which is also. from an Italian viewpoint, the last war of independence (an example: C.

Battisti had been born as an Austro-Hungarian subject before becoming an Italian citizen). To sum up, there is no room for anything that is not part of the Italian spirit or –in other words and from a different chronological point of view- the Latin spirit.

And here is the *punctum dolens*.

In order to strengthen his proposal, G. Rohlfs is forced to deny that the Latins brought their language into Southernmost Italy. As a consequence, the present Romance dialects of this area can not directly derive from Latin but from a Romance medieval colonization (that is a move of Romance people) which the Normans would have supported after their conquest in the eleventh century of Southern Italy and Sicily. However, during the Twenties and the Thirties (that is to say, immediately after the process of Italian unification), this is exactly what Italian scholars could not accept. From their viewpoint, the Latinization of Southern Italy is absolutely undeniable. As a consequence, present Italian Greek must be of Byzantine origin.

It is evident that the reasons for the controversy between G. Rohlfs and the Italian scholars are chiefly ideological. Nevertheless, it could continue after the particular historical time in which it had arisen (and thus conditioned the attitude of the Italian scholars) for various concomitant reasons.

First of all, we can say that the debate clearly suggests a complete scientific indifference to the problems of the bilingualism. This circumstance is not fortuitous since before World War Two there was no methodological means of studying bilingualism (Uriel Weinreich's *Languages in contact* was published in 1953), which did not even have the right of scientific, as it were, citizenship.

In the second place, apart from their ideological attitude, the first of Rohlfs' opponents (C. Battisti but also G. Alessio, A. Pagliaro, V. Pisani...) were eminent scholars, whose opinions could not be ignored in Italy.

Finally, we have to note:
- to Rohlfs' advantage there was the fact that, in comparison with other dialects of Southern Italy, the Romance dialects of the extreme South actually seem to be more recent, at least as regards the lexicon. In other words, they give the impression (to tell the truth, not exactly a correct one: cp. for instance Fanciullo 1996, 93 ff.) that they do not directly originate from Latin but they have formed in a more recent period (Norman Kingdom, eleventh – thirteenth centuries);
- to the advantage of the Italian scholars there is the fact that we have no Greek documents (inscriptions etc.) which can bridge the gap between the second or at the late third century A.D. and the time when the Byzantines arrived (536 A.D.) – but on this point see below.

4. The results of World War Two certainly contributed to appease Italian nationalism, but without having an immediate effect on the controversy. The historical moment had changed, but scholars did not and their pupils (an example: O. Parlangeli, Pisani's pupil) followed the path of their masters. A turning point only occurred from the Sixties and the Seventies on; but in the meantime the controversy had caused a feeling, as it were, of repletion, so that the interest in Italian Greek and in its problems was "out".

So, it was with some heresy that during a conference in Palermo in 1983, I resorted to Greek in order to explain a completely Romance fact, that is the *siciliano* ("Sicilian") vowel system, which characterizes the dialects of the whole of Sicily, most of Calabria and Southern Apulia, i.e., the dialects of extreme Southern Italy (Fanciullo 1984; see also Fanciullo 1996, pp. 11-22 and 39 f).

I have here to be concise.

Four chief stressed vowel systems have originated from the Latin system: 1) the "Sardinian" system (which is typical of most of Sardinia); 2) the "Rumanian" system (typical of Rumanian language and its dialects); 3) the "Sicilian" system; 4) the "Common" (or "Romance") system, which remains almost pure in Italian and constitutes the starting point for the vowel systems of most Italian dialects and of the other Romance languages.

Let us omit the Sardinian and Rumanian systems, whose development cannot actually be reduced to the Common one, and let us compare the latter with the Sicilian one:

(in the Sicilian system /e/ < E and /o/ < O are usually mid low vowels: [ɛ] and [ɔ]).

It is clear that we can pass from the Common to the Sicilian system simply assuming that, in the latter, common /e/ (< I, Ē) and /o/ (< Ŏ, U) vowels have merged with /i/ (< Ī) and /u/ (< Ū) respectively:
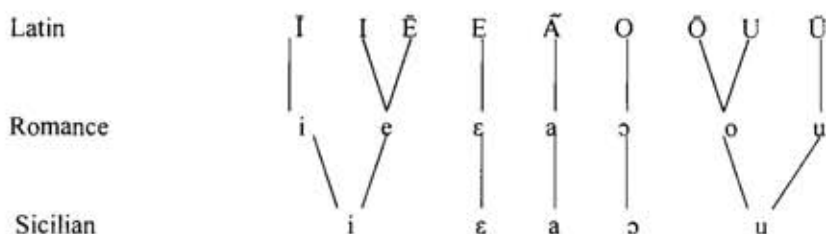
Of course, we still have to explain the Sicilian merging of /e/ in /i/ and of /o/ in /u/; and it is exactly at this point that an intervention of Greek in its Byzantine phase is possible.

Let us consider some examples.

It.-Rom. [kan'dela] (cp. it. *candéla*) 'candle', with ['e], originates from lat. CANDÈLA, from which we have also Greek κανδήλα 'oil lamp',with ['i] in Byzantine and modern pronunciation ([kan'dila]). From Greek αποθήκη 'storehouse' we have Byz. and mod. Greek [apo'θici], with ['i], but also Lat. APOTHÈCA, with È, whence It.-Rom. [po'teka] (cp. it. *bottéga* 'shop'), with ['e]. If we consider lat. CRUSTA 'scab; crust', we can see that it gives rise either to It.-Rom. ['krosta], with ['o] (cp. It. *crósta*), or ancient and modern Greek κρούστα, with ['u]. In the same way, from Lat. FURNUS 'oven' we have both It.-Rom. ['fornu], with ['o] (cp. It. *fórno*), and ancient / modern Greek φούρνος, with ['u]. That is, in homoetymological words (which the bilingual speaker can easily recognize like those), Sicilian mid high vowels clearly correspond to Byzantine and Greek high vowels.

On the contrary, the other vowels (['i, 'ɛ, 'a, 'ɔ, 'u]) do not show any disparity in homoetymological words since they correspond to each other without problems:

λ['i]νον ~ *l*['i]*nu* 'flax; linen'
χ['ɛ]ρσος ~ *j*['ɛ]*rsu* 'uncultivated'
κρεμ['a]στρα 'clothes hook' ~ *kam*['a]*stra* 'chimney chain'
π['ɔ]ρτα ~ *p*['ɔ]*rta* 'door'
κλεισ['u]ρα 'gorge' ~ *kjis*['u]*ra* 'cultivated enclosure'.

Let us imagine the bilingual speaker who in Byzantine Italy spoke both Romance and Greek. If we consider that:

a) in both languages the homoetymological words were (and still are) not isolated but in large quantities;

b) both languages had (and still have) a set of homoetymological suffixes where the correspondences of stressed vowels are perfectly analogous to those we find in the words;

c) supported by the homoetymological words and suffixes, the correspondence of vowel systems was perfect except for ['e] and ['o] vowels, which are present in Romance but are not in Greek;

d) in any case, in a set of homoetymological words and suffixes, stressed Romance [e] and [o] clearly correspond(ed) to stressed Greek [i] and [u];

it will not seem odd that Byzantine pressure triggered and step by step generalized the Romance shift [é] → [i] and [ó] → [u].

It goes without saying that I can produce no irrefutable evidence for affirming that the Sicilian vowel system has actually developed in accordance with this suggestion. My suggestion is precisely a suggestion. Nevertheless, an English scholar who works in Italy, J. Trumper, has recently reproposed this very idea (Trumper 1997, 361) but forgetting to quote my name. This is maybe an indication that my suggestion is well-grounded.

5. At this point, someone could say: well, let us concede that the Sicilian vowel system originates from a Byzantine pressure. But, if this is really the case, it does not tell us anything about Greek and Romance in the previous, i.e. pre-Byzantine, period.

However, things are not so schematic.

If well-grounded, my explanation regarding the Sicilian vowel system involves a high degree of bilingualism over a very wide area. In fact, the present area of where Sicilian vowel system dialects are spoken is about 35.000 kms.² wide, that is more than a tenth of the whole of Italy. Let us grant that this area was initially of a smaller scale and that the spread of this vowel system increased as a consequence of exclusively Romance dynamics

in the (post)medieval period (but all the clues seem to indicate the opposite). Even so, it would be too large an area to be Hellenized on Byzantine grounds only.

Regarding this, it is true that we are familiar with East-West movements of people in Byzantine times (cp. Parlangeli 1953, 141 f.). However, as far as we know, they are rare and unfit for a real Hellenization of Southern Italy. What we are aware of are only a few thousands of people (often slaves who did not speak Greek but other languages, Slavonic etc.), whose moves from the East are not concentrated in a definite moment but scattered throughout the sixth and eleventh centuries. On the other hand, the fact that our information is scarce reflects what we know about the potential of Byzantine shipping. This point has been emphasized by Vera von Falkenhausen (1982, 85). In accordance with the Byzantinist, a move of, say, 15.000 people from East to West in the tenth century would have required a fleet of at least 100 ships and a crossing without losses. It would have been a very complicated and expensive operation which was certainly not worthwhile. Besides, 15.000 people might seem a large number for the time, but effectively it would correspond to less than 0.5 inhabitants per square kilometre. This is in a land which, in the Middle Ages, was far from empty but, in spite of wars and disasters, among the Mediterranean's most densely populated regions.

If we consider the facts impartially, a break in Italian Hellenism between the Graecia Magna and Byzantine ages is difficult to justify. Of course, this does not mean that since there was Greek, Latin had not reached Southern Italy. We can not agree any more with such a strict (*either* Greek *or* Latin) antithesis for two reasons. From a general point of view, we can not transfer to ancient Europe the same peculiarities of modern Europe, like the correspondence *cuius regio eius lingua* (which nowadays seems to us somehow a natural circumstance but is only modern historical product). From a more contingent viewpoint, the Sicilian vowel system seems to be a certain indication of an extensive Greek-Romance symbiosis, which does not seem justified merely by Byzantine events. If a drastic change did take place in Byzantine Southern Italy, it was a religious and cultural one (that is, Southern Italy oriented itself in conformity with the *Weltanschauung* of Byzantium). However, a drastic change from a linguistic point of view looks rather improbable and, moreover, is refuted by recent epigraphic discoveries.

It is true that such discoveries are rare and regard Sicily much more than Calabria or Southern Apulia (and, what is more, they are published in reviews which are not easily available). Nevertheless, differently from the first of Rohlfs' opponents we can no longer say that Strabo had the last word on the fortune of Graecia Magna Greek:

Νυνὶ δὲ πλὴν Τάραντος καὶ Ῥηγίου και Νεαπόλεως
ἐκβεβαρβαρῶσθαι συμβέβηκεν ἅπαντα

(6,1,2).

Since «νυνὶ» alludes to Strabo's time (first century B.C. / first century A.D.) –this was the reasoning of Rohlfs' opponents-, this would mean that 5 centuries later, when the Byzantines arrived in Italy, the linguistic legacy of Graecia Magna had completely disappeared. However Strabo's testimony does not regard *stricto sensu* the linguistic state as well as the political one (cp. Hatzidakis [1982], 443 f.; Tsopanakis, e.g. 1984). Moreover, with Strabo's testimony we are in the presence of a literary topos. As a matter of fact, three centuries before Strabo, Aristoxenos (fragm. 124 Wehrli) complained about the

decline of Posidonia (Paestum) using the same verb and in the same form («ἐκβεβαρβαρῶσθαι») which Strabo would have used three centuries later. The *tournure syntactique* also seems to be the same: «συνέβη [...] ἐκβεβαρβαρῶσθαι» Aristoxenos – «ἐκβεβαρβαρῶσθαι συμβέβηκεν» Strabo.

In any case, such assertions have to be considered with some scepticism. We receive a confirmation of this from the Byzantine historiographer N. Grigoràs (first half of the fourteenth century), who wrote about the Hellenism of Southern Italy: «καὶ οὐδὲν ἔτι ἴχνος ἐλλέλειπται μὴ ὅτι γε μούσης Ἑλληνικῆς ἀλλ᾽οὐδὲ διαλέκτου κοινῆς» (cp. Gigante [1982], 153). It should be noted that N. Grigoràs wrote these words in the same period in which the Italian poet Francesco Petrarca advised a pupil of his to go to learn Greek not in Constantinople (because of the dangers of the journey) but in Calabria (cp. Rohlfs 1974, 17 f.). However, from the point of view of the language if not of poetry, Grigoràs' assertion is false even 650 years later.

6. As far as pre-Byzantine texts of Italian source are concerned, I shall mention here only two *specimina* from Consani 1997.

A) part of a text on a cross-shaped lead lamina; origin: neighbourhood of Syracuse; dating: fifth / sixth century A.D.:

K(ύρι)ε K(ύρι)ε βοή // †θ[*foramen*]η // σον τοῦ δού(λου) // σον τῖ(ς) δ(ού)λις //

K(ύρι)ε βοό(θη)σον // Ἁγίαν Ανα //τας, // ῖιν βο(ή) // (θη)σον K(ύρι)ε K(ύρι)ε // α(ὐ)τᾶς ὦ Θεός τῖ(ς) δού(λις) // † ὦ Θεός τῖ(ς) δού(λις) σον Λ † α(ὐ)τιός τ(ῖς) // δού(λις) // βοή(θησον) παρ α(ὐ)τ // ᾶς K(ύρι)ε δού // λου σον // ῖγιος K(ύρι)ε βοή(θησον) ὦ Θεός // τῖ(ς) δού(λις) σον // 'Αμέν

(Consani 1997, 225);

B) passage of a *phylakterion*; origin: Mòdica (Sicily); dating: fifth century A.D.:

† Πρὸς ε(ὐ)καρ // (πί)α(ν), χουρίον (καὶ) κλα // ρίον [...]

(ib. 226).

Let us omit the interpretation problems and consider phonetic changes such as η > ι (τῖ(ς), δούλις; text A), υ > ø in α(ὐ)τῦς (text A) and ε(ὐ)καρ(πί)α(ν) (text B), -ν > ø in the same ε(ὐ)καρ(πί)α(ν). Let us especially consider Doric phonetic peculiarities such as α(ὐ)τῦς instead of αὐτῆς and κλαρίον instead of (*)κληρίον (< κλῆρος).

Although the texts are of exclusively Sicilian origin (it would be more interesting if we also had something like this as regards Calabria and Apulia too), they are Greek documents whose dating immediately precedes the arrival of the Byzantines. Moreover, as C. Consani points out, here we can see at work the interaction between the Doric legacy and adaptation to the patterns of κοινή, whose results are still perceptible especially in present *bovese-*Greek (see below).

The latter circumstance has a special importance since still recently the already quoted J. Trumper among the «counterarguments» to the ancient origins of Italian Greek has cited:

«• a preponderance of Gk diminutives, e.g., -ίον as in σκώψ > σκωπίον > [sk(r)u'piu] 'scops owl';

• vowel outcomes typical of modern Gk peripheral dialects: υ > ου (τολύπη > τουλούπα > [tu'lupa] 'boundle');

• lexical items indicating a Middle Gk / Byzantine source: e.g., C[lassical] Gk σεισυυγίς > Byzantine σεισίκωλον > [si'sikula], ['sɛkula], [seku'lɛḍḍa] 'wagtail'»

(Trumper 1997, 355 f.).

In this way Trumper has again put into circulation a point of view which, in Italy, O. Parlangèli (1953, 109) had expressed long before and G. Rohlfs (1972, 4 f.) had already censured (maybe J. Trumper was not acquainted with this), that is: if present Italian Greek had ancient origins, it would not show the same evolution as Common Greek does but it would preserve a more archaic phase.

Explicitly or implicitly, this point of view is based on two assumptions:
- there would be a considerable distinction between ancient and Byzantine Greek;
- the pre-Byzantine political isolation of Italy from the Greek-speaking East would have prevented Italian Greek from evolving congruously with Eastern Greek. Therefore, if ancient, the former would exhibit a pre-Byzantine *facies*.

Both assumptions are incorrect.

As far as the first is concerned, it is well known that the main linguistic phenomena of Byzantine Greek are in many cases generalization at all levels of phenomena which were already present at some level in ancient Greek. For instance, generalized throughout (or nearly throughout) the Byzantine world, the outcome η > [i] is already present not only, as is well known, in Beotian from the most ancient texts but also, at the end of the fifth century B.C., in Athens, where it appears in some texts which seem to be exercises of school-children (that is, in non-standardized texts; cp. Lazzeroni 1999, 140 f.). By the way, I myself must make a specification: when I say that the Sicilian vowel system originates from Byzantine pressure, I make use of a brachylogy instead of «pressure of the Greek vowel system as it completely manifests itself in the Byzantine period».

With regard to the second assumption, the *excerpta* of texts we have seen before clearly show that the relations between Eastern and Western (Italian) Greek never stopped in an irrevocable way during the first half millennium of our era. Let us observe, in text B, especially the hypocorisms (with –ιον termination, which, according to Trumper, would have to be an indication of Byzantine transmission) χουρίον, certainly instead of a χωρίον, and κλαρίον: both preceding the arrival of the Byzantines and the latter joining the Doric legacy and adaptation to the κοινή patterns. On the other hand, before the Byzantines and in relation with Greece, Italy could not be seen as an isolated area, so to say an area beyond the Pillars of Hercules.

(I would like to add that in no way are Italian Greek «vowel outcomes typical of modern Gk peripheral dialects» understandable as a «counterargument» to the ancient origins of Italian Greek. Do «peripheral dialects» such as, for example, Cretan or Cappadocian presuppose a later origin only because of their being peripheral?).

7. Now that on both Ionian shores there is agreement about the ancient origins of Italian Greek (on the Italian side, at least as far as I am concerned!), is our task over?

I do not think so.

Here, I will not dwell on the importance of studying both *grico* and *bovese* in themselves (a topic which certainly attracts the attention of any linguist interested in bilingualism). However, from my point of view, the fact that we can finally leave aside the false problem regarding the origins of the Greek which is still spoken in Italy, this fact opens to us two millennia of linguistic exchange, whose history still needs to be clarified in its innumerable details.

Let me conclude with a couple of examples.

First example. In the eleventh century, in Oppido (Southern Calabria) a Μουλέ (a Muslim, to judge from his name; < Ar. m a w l ā 'lord') stresses his acquired Greek origin by affirming that he is «'έγγων τοῦ Λαχανᾶ κατὰ τεῖς γεινεκός μου» (Guillou 1972, diploma 23, line 1; obviously Λαχανᾶς is a Greek name, 'greengrocer'). This is sufficient to show us the complicated social stratification of Byzantine Italy and, as a consequence, the importance of analyzing it from a sociolinguistic viewpoint.

Second example. Collecting the Doric materials of present Italian Greek, A. Karanastasis (1984, xxiii ff.) assembles 23 lexical items, of which only one is exclusive to Apulia Greek, one is of both Apulia Greek and Calabria Greek and 21 are exclusive to Calabria Greek. Perhaps this is fortuitous; and perhaps it is an indication of events which are different and need an explanation. The right way to consider the question is being sensitive to differences, not to level everything on the same line. So, on the basis of observations which I can not here enlarge on at length, elsewhere (Fanciullo 1996, 147 ff.) I have formulated the hypothesis that whereas *bovese* (Calabria Greek) is directly connected to the Greek of Graecia Magna (an indication of this can be precisely the large number of Doric items *bovese* preserves), *grico* (Apulia Greek) could originate from a Hellenization of Southern Apulia during the (late) Roman Empire. This was at the moment when the Messapians, leaving their by then provincial language, came to lie on the border between Greek East and Latin West.

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present Greek-speaking areas

Romance area where the θέλω να νάω pattern is
in use

Romance area with "Sicilian" vowel system

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CAPPADOCIAN VARIABLES

Abstract

In this paper I describe some phonological processes in Cappadocian. Language contact, linguistic interference, and external and internal linguistic change have resulted in extreme variation in the various subdialects. If anything, the evidence shows that linguistic change is not teleological but diverse, if in accordance with a number of established universals.

1. Introduction

There was a time when linguistic theory was thought to be "concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community" (Chomsky 1965: 3). What exactly constitutes a speech-community, let alone a completely homogeneous speech-community, was (and often is) left in the air, so any speaker-listener would be ideal — including theoretical linguists, who could remain seated "in their armchairs consulting their intuitions about language structure" (Trudgill-Cheshire 1998: v), without having to worry about the variable data that linguists conducting fieldwork inevitably encounter. Variability in language was assumed to be "unmanageable, or uninteresting, or both" (Chambers & Trudgill 1998: 127). It was a time when linguistic theory was concerned primarily with English and theoretical linguists were recruited primarily from the English speech-community. It was a time when a linguist who was a native speaker of English was by definition an ideal linguist, as he or she was, also by definition, an ideal speaker-listener.

Things have changed. English is no longer the preferential and priviliged "language of paradise" for theoretical linguists, who have taken a renewed interest in other languages and, indeed, dialects. Languages are entities that are "as much political, geographical, historical, sociological and cultural as linguistic" (Chambers-Trudgill 1998: 4). If we talk about the French language, for instance, we are not referring to a completely homogeneous speech-community, but to a more or less abstract, codified and standardised norm with which speakers of French identify themselves one way or the other. The *ideal* speaker-listener of French would at the very least have to be a distinguished member of the Académie Française. Most if not all speakers of French are not so much speakers of the French language as speakers of one, and often more than one, variety of the French language. Such varieties are commonly referred to as dialects, whether they be social, regional, urban or whatever (Chambers-Trudgill 1998: 45). Dialects are defined by Chambers and Trudgill (1998: 5) as "varieties which are grammatically (and perhaps lexically) as well as phonologically different from other varieties".

How can dialects be of relevance to linguistic theory? Theoretical linguists tend to treat dialects in exactly the same way as they used to treat languages in the old days, viz. the speech of a completely homogeneous speech-community — the only difference being the size of the speech-community, which is now reduced to a subdivision of the original one. In other words, theoretical linguists are still not as much interested in the variability of

a particular speech-community as in its homogeneity. Dialect variation is a matter of parameter setting and the difference between one dialect and another is treated on the same level as the difference between one language and another, or between a language and one of its dialects. The very notion of parameter setting suggests a homogeneity that is actually missing in most if not all speech-communities. Variability is an inherent feature of language in all of its varieties, including dialects, and "more and more linguists are coming to see that variability is not only interesting but also that it can be made manageable and integrated into linguistic theory" (Chambers-Trudgill 1998: 127).

It is not my intention to discuss how variability can be integrated into linguistic theory as such. Although homogeneity as a concept underlies much if not all work in theoretical linguistics, it cannot be said that homogeneity is an essential characteristic of linguistic theory itself. It would seem that variability much better reflects the state of the art in linguistic theory and it is perhaps better to speak of linguistic theories in the plural. So instead of building a new theory based on variability in language I will present a number of interesting case studies from a particular Greek dialect. Some of them provide homogeneous evidence against particular claims made in various linguistic theories. Others testify to the inherent variability of language in all of its varieties and show how different options are made in identical situations.

Language is a system always in a state of flux. As Coseriu (1974: 236) puts it: "Das System existiert, weil es geschaffen wird" — a remark congenial with Hopper's idea of "emergent grammar" (Hopper 1987): grammar is not so much a construct as a construction, that is a system under construction. Linguistic change is not a matter of replacing one system with another, but of exploiting the inherent variability of the system. To quote Coseriu once again: "Es darf nicht einmal von 'System' *und* 'Bewegung' — wie von einander entgegengesetzten Dingen — gesprochen werden, sondern nur von 'System *in* Bewegung'" (1974: 236). Ever since the work of Labov, Trudgill and other sociolinguists we have come to appreciate that the principles of linguistic change are not exclusively linguistic, but also political, geographical, historical, sociological and cultural.

If anything these case studies show that anything is possible in language. Linguistic change is not teleological: different options can be and are made in comparable situations, often resulting in a complete typological break, especially in cases of language contact. The case studies all testify to the inherent variability of language, thus challenging the idea that everything in language should be determined, discrete, categorial and, indeed, homogeneous. Our performance models our competence as much as our competence models our performance: both are interdependent. The case studies that I am about to present I would like to see as small contributions towards the construction of a performance grammar.

Cappadocian is a dialect or rather a cluster of dialects that used to spoken in central Turkey until the population exchange between Greece and Turkey in the 1920s. Until then, Cappadocian had been developing in an isolated area separated from the rest of the Greek-speaking world following the conquest of Asia Minor by the Turks. As a result of this long-term cultural pressure, Cappadocian was heavily influenced by the language of the conquerors. Kontosopoulos goes so far as to say: όποιος ακούει—ή μάλλον διαβάζει [...] την καππαδοκική διάλεκτο, δεν ξέρει αν έχει να κάνει με τουρκικά σε ελληνικό στόμα ή με ελληνικά σε στόμα τούρκικο "whoever hears — or rather reads ... the Cappadocian dialect, does not know whether he has to do with Turkish spoken by a Greek or with Greek spoken by a Turk" (1994: 7). This is an intriguing remark, as it seems to suggest that from a

synchronic, and I hasten to add: strictly linguistic, perspective, it is impossible to classify Cappadocian genetically as either a Greek or a Turkish dialect. Considered from a political, historical, sociological and cultural perspective, however, Cappadocian cannot but be considered a Greek dialect, albeit an extremely divergent one. The following case studies all testify to this.

1. Phonological borrowing

Compared to the sound system of Standard Modern Greek (SMG), Cappadocian has at least six additional phonemes, all borrowed from Turkish. All of these have entered the language through loanwords, as can be gathered from the following examples:

(1) a.   *šekér* < *şeker* < Persian *säkär* "sugar"

    b.   *čalgí* < *çalgı* "musical instrument"

    c.   *öpüdžük* < *öpücük* "kiss"

Before front vowels, the postalveolar fricative /š/ appears in Cappadocian words of Greek origin as an allophone of the unvoiced velar fricative /x/ and the unvoiced alveolar fricative /s/, the unvoiced palatal fricative /č/ as an allophone of the unvoiced alveolar plosive /t/ and the unvoiced velar plosive /k/:

(2) a.   *šón* < *xióni* "snow"

    b.   *šímera* < *símera* "today"

    c.   *čis* < *tís* "who?"

    d.   *čiló* < *kiló* "roll"

The unvoiced palatal fricative /č/ is sometimes voiced as a result of lenition:

(3) a.   *džó* < *čó* < **či* < *uxi* "not" (cf. Pontic $k^h i$- < *uxi*)

    b.   *džufáli* < *čufáli* < **čofáli* < **čefáli* < *kefáli* "head"

2. Vowel harmony

The so-called "Turkish" vowels, however, also appear in Greek suffixes as a result of vowel harmony. The Turkish suffix -*ci*, for instance, is used to derive nouns "denoting persons who are professionally or habitually concerned with, or devoted to, the object, person, or quality denoted by the basic word" (Lewis 1967: 59). These words are naturally integrated into the old declension in -*is*, but usually with the appropriate vowel harmony:

(4) a.   *šekér-džis* < *şeker-ci* < "sugar-merchant"

    b.   *čalgí -džis* < *çalgı-cı* "musician"

    c.   *öpüdžik-čüs* < *öpücük-çü* "(obdurate) kisser"

As for the examples just quoted, it could be argued that the vowel harmony is based on the Turkish source. In that case, the process would have to be represented as follows:

(5) a. *šekérdži-s* < *şeker-ci* < "sugar-merchant"

   b. *čalgídži-s* < *çalgı-cı* "musician"

   c. *öpüdžükčü-s* < *öpücük-çü* "(obdurate) kisser"

I will have occasion to return to this issue in a moment. For the time being, it will suffice to note that vowel harmony is not always observed, as can be gathered from the variation in the following examples (Dawkins 1916: 113):

(6) a. *patišáx* < *padişah* "king" (Ulagáč)

   b. *patišáx-ïs* (Aksó, Araván, Mistí, Delmesó)

   c. *patišáx-is* (Sílli)

   d. *patišáx-os* (Delmesó)

Here we have four different ways of adapting a loanword to the rules of Cappadocian. In (6a), the word is borrowed as such, but is inflected as if it were a neutre. In (6b) and (6c), the word is integrated into the old declension in *-is*, but whereas vowel harmony is observed in (6b), it is not in (6c). In (6d) the word has passed to the declension in *-os*, but note that at Delmesó (6b) was attested as well (Dawkins 1916: 668). It will be clear that the suffix in (6b) and (6c) is Greek, not Turkish, and that the vowel harmony in (6b) applies to a Greek, not a Turkish suffix.

Vowel harmony is also observed Cappadocian verbs borrowed from Turkish. The borrowing takes place in the aorist (Janse 2001a), the unmarked and hence basic stem in Cappadocian as in SMG (Mackridge 1985: 106). The process can be represented as follows:

(7) *iste-mek* "wish" → past 3sg *iste-di* "I wished"

   iste-di → aor. 1sg *istédi-s-a* > *istét-s-a*, subj. *istedí-s-o*

   istedí-s-o → pres. 1sg *istedá-o* > *istedó*

   istedí-s-o → pres. 1sg *istedíz-o*

The past tense of *iste-mek* "wish" is *iste-di* (with vowel harmony). *Iste-di* is the unmarked 3rd person singular which was reanalysed as a stem (in accordance with Watkins' Law) and borrowed as an aorist stem in Cappadocian. The resulting form was 1sg *istédisa* > *istétsa*, subjunctive *istediso* (Dawkins 1916: 68), which could be interpreted as being derived from either *istedó* < *istedáo* or *istedízo*. The interpretation of *istédisa* > *istétsa* and *istediso* as being derived from a present *istedízo* should not come as a surprise, as the *-ízo* suffix has always been extremely productive. Verbs in *-ó* < *-áo* constitute of course a very important category in the verb system of SMG generally, so the alternative interpretation of *istediso* as being derived from a present *istedó* < *istedáo* is quite natural as well.

In the case of *istemek* → *istedizo*, the vowel harmony has no consequences for the vocalism of the Greek suffix. There are, however, numerous other cases where the vowel harmony has indeed been observed. Such is the case of, e.g., *düsündüzo*, from the Turkish verb *düşünmek* "consider", the derivational process of which can be represented as follows:

(8)   *düşün-mek* "consider" → past 3sg *düşün-dü* "I considered"
        düşün-dü → aor. 1sg *düšündü-s-a* > *düšünd-s-a*, subj. *düšündü-s-o*
        düşündü-s-o → pres. 1sg *düšündüz-o*

The vowel harmony is sometimes extended to the verbal endings as well. Consider, for instance, the inflection of *düšündüzo* at Malakopí:

(9)   pres.

		aor.	
düšündüzu "I consider"		*düšündsa* "I considered"	
düšündüs		*düšündsüs*	
düšündüš		*düšündsü*	
düšündüzumi		*düšündsami*	
düšündüziti		*düšündsüti*	
düšündüžni		*düšündsani*	

In other verbs, attested at Malakopí as well, the vowel harmony is not observed, as in the case of *yurulmak* → *juruldízu* "be tired":

(10)   pres.

		aor.	
juruldízu "I am tired"		*jurúltsa* "I was tired"	
juruldízis		*jurúltsas*	
juruldízi		*jurúltse*	
juruldízumi		*jurúltsami*	
juruldíti		*jurúltsati*	
juruldízuni		*jurúltsani*	

An intriguing kind of vowel harmony is also found to apply in native Cappadocian verbs. An extremely interesting case is the inflection of *éxo* (ἔχω) at Flojitá (Dawkins 1916: 71):

(11)   pres.

		impf.	
éxo "I have"		*íxa* "I had"	
éxïs < *éxis*		*íxas* < *íxes*	
éx < *éxï* < *éxi*		*íxa* < *íxe*	
éxume		*íxame*	
éxïte < *éxite*		*íxate*	
éxne		*íxane*	

The unvoiced velar fricative /x/ usually changes to a postalveolar fricative /š/ before front vowels, so the expected outcome would have been as follows:

(12)	pres.	*éxo* "I have"	impf.	*íxa* "I had"
		*éšis < éxis		**íšes < íxes*
		*éš < éxi		**íše < íxe*
		éxume		*íxame*
		*éšite < éxite		*íxate*
		éxne		*íxane*

What has happened instead is that the velar pronunciation of the /x/ is maintained throughout and as a result it has changed the quality of the following vowel, /i/ becoming /ï/ and /e/ becoming /a/.

The examples just quoted are taken from Dawkins, who notes that "[t]he fullness with which the vowel-harmony is observed clearly depends on how far the individual speaker is accustomed to talk Turkish and has the Turkish ear for these distinctions. It must therefore be largely a personal matter and more or less prevalent and thorough in proportion as more or less Turkish is spoken alongside of the Greek dialect" (Dawkins 1916: 68).

3. Phonological substitution

So far, I have considered instances of additional phonemes and additional phonological oppositions in Cappadocian as a result of Turkish interference. This interference also works the other way around in that some phonological oppositions are suppressed and as a result a number of phonemes have disappeared. Such is the case of the unvoiced dental fricatives /θ/ and its voiced counterpart /ð/. Turkish has no such sounds and as a result various others are substituted for them, particularly in initial and intervocalic positions. The various changes are all well-known from other historical languages, but it is interesting to notice how different options have been made at such a small distance (Dawkins 1916: 75-78). At Ferték, the dental fricatives have consistently been substituted by interdental plosives, as in the following examples:

(13) a. *tíra < θíra* "door"
   b. *émata < émaθa* "I learned"
   c. *den < ðen* "not"
   d. *ída < íða* "I saw"

At Araván, the dental fricatives have changed to the alveolar trill /r/ in intervocalic position. In initial position, the unvoiced dental fricative /θ/ is substituted by an unvoiced velar fricative /x/ — which Turkish lacks as well, the voiced dental fricative /ð/ by a voiced interdental plosive /d/:

(14) a. *xíra < θíra* "door"
   b. *émara < émaθa* "I learned"
   c. *den < ðen* "not"
   d. *íra < íða* "I saw"

At Gúrzono, the unvoiced velar fricative /x/ appears also in intervocalic position:

(15) a.   *xíra < θíra* "door"

    b.   *émaxa < émaθa* "I learned"

    c.   *den < ðen* "not"

    d.   *íra < íða*

At Semenderé, the voiced dental fricative /ð/ has been substituted by a voiced alveolar fricative /z/:

(16) a.   *xíra < θíra* "door"

    b.   *émaxa < émaθa* "I learned"

    c.   *den < ðen* "not"

    d.   *íza < íða* "I saw"

At Ulagač, the unvoiced dental fricative /θ/ has changed in initial position to an unvoiced palatal fricative /ç/ — not attested in Turksh, whereas both the voiced dental fricative /ð/ and its unvoiced counterpart /θ/ are substituted by a palatal approximant /j/ in intervocalic position:

(17) a.   *çíra < θíra* "door"

    b.   *émaja < émaθa* "I learned"

    c.   *den < ðen* "not"

    d.   *íja < íða* "I saw"

At Sílli, the unvoiced dental fricative /θ/ has been substituted by an alveolar fricative /s/, its voiced counterpart /ð/ by an alveolar trill /r/, both in initial and intervocalic position:

(18) a.   *síra < θíra* "door"

    b.   *émasa < émaθa* "I learned"

    c.   *ren < ðen* "not"

    d.   *íra < íða* "I saw"

Other combinations are attested for other villages, and lexical diffusion occurs everywhere. Thus, for instance, the word for "door" is *tíra* at Semenderé and Ulagáč, instead of the expected *xíra* or *çíra*. At Araván, two variants for *θékno*, the Cappadocian equivalent of SMG *θéto* "place", are attested: *tékno* (with an unvoiced interdental fricative) and *sékno* (with an alveolar fricative), instead of the expected *xékno*.

It should be noted, however, that the situation not only differs from village to village, but also from person to person. A major factor in the retention of the velar fricatives will have been the presence of a Greek school in the village, or the contact with other Greek-speaking communities, especially in Constantinople, where many Cappadocian

men went to work. As a mattter of fact, in many bilingual villages, the men spoke SMG —
or some substandard variety — and Turkish, whereas the women spoke Cappadocian and
Turkish.

The phenomena discussed so far can also be used to test a number of general
claims about phonological borrowing (Campbell 1996: 102). The Cappadocian data seem to
support the traditional claim that phonological borrowing is usually accompanied by lexical
borrowing, though the application of the Turkish vowel harmony to native Cappadocian
words is noteworthy.

Another traditional claim is the so-called compatible structure claim as formulated
by Jakobson: "A language accepts foreign structural elements only when they correspond to
its tendencies of development" (Jakobson 1938: 54). The introduction of the palatal
fricatives /č/ and /dž/ and the postalveolar fricative /š/ may be considered structurally
compatible with the Cappadocian sound system, as these sounds already existed as
allophones. However, the borrowing of the so-called "Turkish" vowels and the
accompanying vowel harmony can hardly be considered structurally compatible with the
Cappadocian sound system or its "tendencies of development".

Finally, it may be useful to stress the fact that the Cappadocian evidence supports
the claim that sound changes due to language contact need not be regular. As a matter of
fact, language contact may be considered a major factor in disturbing the regularity of
internal sound change.

4. Lenition and fortition

Lenition or weakening is a rather loose notion applied to a variety of sound changes in
which the resulting sound after the change is somehow conceived of as weaker in
articulation than the original sound. Fortition or strengthening is the opposite of lenition.
Both processes are well represented in Cappadocian.

The most extreme case of lenition is of course the complete loss of sounds and this
can have a profound effect on the shape of the affected words. To take a well-known
example, unaccented /i/ and /u/ are generally dropped in final and often also medial
position. Among the examples already quoted I would like to draw your attention to *šón*
(2a), *dūšúndsa* < *dūšúndisa* (9), *jurúltsa* < *jurúldisa* (10), *éx* < *éxï* < *éxi* and *éxne* < *éxune*
(11). Another example is the following:

(19)   *áθropos* "man" (nom. sg.)
       áθropo / *áθropos* (acc. Sg. def. / indef.)
       aθróp < *aθrópu* (gen. sg.)
       aθróp < *aθrópi* (nom. pl.
       aθrópus / *aθropjús* (acc. pl.)

In this particular case, the apocope of the final /i/ and /u/ has resulted in syncretism
in the genitive singular and the nominative plural. Final /i/ and /u/ are restored if a clitic is
attached:

(20)   *aθrópu=m* "my man" (gen. sg.)
       aθrópi=m "my men" (nom. pl.)

Apocope of final /i/ has profound effects on the shape of neuter nouns originally ending in -*i*, e.g.:

(21)   *spít < spíti* "house"
       to=spíti=m "my house"

Most of these now end in a consonant, which opened up the way to borrow many Turkish words ending in a consonant without further modification, e.g. *šekér* (1a), *öpüdžúk* (1c) and *patišáx* (6a). Another example is the following:

(22)   *koríč < korítsi*, pl. *koríǧa* "girl"
       to=koríči=m "my girl"

After two consonants, final -*i* is preserved when the resulting cluster would be unpronouncable or, alternatively, an anaptyctic or "svarabhakti" vowel is inserted. Variation is not at all uncommon, as can be gathered from the following example:

(23) a.   *alétri*, pl. *alétrja* "plough" (Araván, Ulagáč)
    b. *alétir*, pl. *alétrja* (Delmesó)
    c. *alétir*, *alétirja* (Mistí)

Apocope of final -*i* generally results in final devoicing of the preceding consonant, if it is voiced, which is again a case of Turkish interference. The voicing is preserved in intervocalic position. I start with a Turkish example:

(24)   *kılıç*, acc. *kılıcı* "sword"

Cappadocian examples include the following:

(25) a.   *kílíč < kílídží*, pl. *kílídǧa* < Turkish *kılıç* "sword"
    b. *kanáf < kanávi*, pl. *kanávja* "rope"
    c. *lulúθ < lulúði*, pl. *lulúðja* "flower"

Since in many villages the voiced dental fricative /ð/ has been substituted by another sound, as illustrated in (13) to (18), this sound change has had its impact on inflection as well. Consider, for instance, the various forms for *apíði* "pear" (Dawkins 1916: 91-92):

(26) a.   *apiθ < apíδi*, pl. *apíδja* (Malakopí) "pear"

     b.   *apít < apídi*, pl. *apija* (Ferték)

     c.   *apíx < apíxi*, pl. *apíja* (Malakopí)

     d.   *apír < apíri*, pl. *apírja* Araván)

     e.   *apíz < apízí*, pl. *apízja* (Semenderé)

Final unaccented *-i* is not dropped if it is preceded by an accented vowel. In these cases /i/ is strengthened to an unvoiced velar fricative /x/, which in its turn is sometimes dropped. The Turkish word *şey* "thing", for instance, takes the following forms in Cappadocian:

(27) a.   *šéj* (Sílli) < Turkish *şey* "thing"

     b.   *šéx* (Sílli, Gúrzono, Axó, Flojitá)

     c.   *šé* (Flojitá, Malakopí, Ulagáč)

I conclude with a word which illustrates almost all of the phenomena discussed so far:

(28) a.   *poδári* "foot"

     b.   *poδár*, pl. *poδárja* (Delmesó)

     c.   *pijár*, pl. *pijárja* (Axó)

     d.   *apír < apíri*, pl. *apírja* Araván)

     e.   *apíz < apízi*, pl. *apízja* (Semenderé)

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DIALECT EVIDENCE BEARING ON THE DEFINITION OF 'WORD' IN GREEK

Abstract

Although linguists tacitly operate as if the notion "word" were straightforward, it is in fact one of the trickiest of grammatical constructs to define accurately. Different notions of 'word' may be operative for different levels and/or components of grammar, e.g. a "phonological word" may be different from a "syntactic word" and different from a "lexical word", and different dialects or varieties of a language may differ on the criteria for wordhood and on the status of in idual elements. In this paper, accordingly, the issue of how to define "word" for Moder reek is investigated, with the main emphasis being on how data from various Greek dialects contributes to a pan-Hellenic determination of the tests relevant for identifying which elements are best considered as "words". Crucial to this task for Greek is the analysis of various "little elements", the so-called "clitics" and "particles" that are part of the grammatical apparatus of noun phrases, verb phrases, and sentences, i.e. familiar elements like *tha* and *na*, the weak object pronouns, the negative markers, etc.

1. Introduction

Greeks have long shown a fascination with the notion of 'word', as suggested, for instance, by the fact that there were no less than eight terms used for this notion in Ancient Greek, admittedly from different eras and different genres of usage, and thus with different nuances of meaning: *diálektos, épos, lektón, léxis, lógos, ónoma, rhê:ma, pho:né:*. Moreover, the very concept of 'word' as a technical construct within Western grammatical theory has its roots in the Hellenistic grammarians' definition, as given in (1) (cf. Robins 1993: 57):

(1) léxis   esti   méros   toû katà   súntaxin   lógou   elákhiston
    word/NOM is/3SG part/NOM of-the concerning syntax/ACC expression least/NOM
    'A word is the minimal part of a syntactic construction'

The definition in (1) has withstood the test of time and is the basis, for instance, for the concept in modern linguistic theory of "lexical integrity"; still, it can be updated somewhat to the informal characterization in (2):

(2) 'word' (informal): unit of organization within a grammatical hierarchy that is above the
    level of individual sounds and below the level of sentences

and this can be specified further as a more technical characterization, in (3):

(3) 'word' (technical): the output of the morphological component and the smallest unit visible to the syntactic component.

Such a characterization, however, presents at least two problems. First, it is not theory-neutral, and in particular, is not applicable in theoretical frameworks that do not recognize a separate morphological component or which manipulate various grammatical elements in the syntax. Second, different notions of 'word' may be operative for different levels and/or components of grammar, e.g. a "phonological word" may be different from a "syntactic word" and different from a "lexical word". Moreover, with regard to particular languages, one has always to be concerned with internal dialect divisions and how they interact with these notions of 'word'; it is conceivable that dialects will differ on just how these notions are realized.

Consequently, an approach that many linguists have taken is to work on a language-specific basis, applying various "tests" or "criteria" to look for grammatical generalizations that must make reference to, or allow for the identification of, appropriate higher-level constructs that can be termed 'word' in some sense or at some level of analysis, for some dialect or variety.

In this paper, accordingly, I take this approach to the issue of how to identify 'word' for Modern Greek, and pay particular attention to how evidence from regional and social dialects bears on this question.

2. Grammatical Preliminaries
As it happens, most of the problematic aspects of deciding about wordhood in Greek focus on various "little elements", what are often — erroneously or misleadingly — referred to as "clitics"; thus some basic notions about such elements in general are presented in this section, followed in section 3 by a (near-exhaustive) listing of the relevant elements in Greek, with examples, in order to set the stage for a serious consideration of their analysis and the relevant dialect evidence.

The main problem with these elements is that the term most often used to characterize and/or classify them, namely "clitic", has come to mean for most linguists simply *any* short word-like entity that has some grammatical function and some prosodic deficiencies; moreover, almost no one justifies using the term for any particular element in the language they were looking at, as if it were always self-evident that a given element is a "clitic"

To remedy these shortcomings in the use of the term "clitic", I take a different view. Following the lead of Arnold Zwicky, I maintain that "clitic" is a most uninformative term; as he puts it (Zwicky 1994: xiii-xv): "clitic ... is an umbrella term, not a genuine category in grammatical theory[; moreover] a variety of phenomena [that] have appeared under the clitic umbrella ... merely have marked properties in one or more components of grammar".

A similar stance (though taken for somewhat different reasons) concerning the nonutility of the notion "clitic" is to be found in Everett 1996.

In such a view, what must be recognized as morphological/syntactic primitives is not a three-way division of AFFIX vs. CLITIC vs. WORD, but rather simply a bipartite one of AFFIX vs. WORD. What is needed further, though, is the recognition that within each category, there are *typical* (i.e. "core") and *atypical* (i.e. "marginal" or "marked") members, but this is required independently of the decision regarding clitics, i.e. even if one were to adopt a basic 3-way affix/clitic/word distinction.

With this simpler inventory of basic elements, the grammar handles (i.e., accounts for or distributes) affixes in the morphology (i.e. the morphological component) and words in the syntax (i.e., the syntactic component), Moreover, elements *must* be designated by the grammar as an affix or a word, i.e. assigned to the morphology or to the syntax; it is one of the functions of the grammar to reflect this status — a putative "cline" that is often posited between these two polar oppositions is merely the linguist's reflection of the fact that there are typical and atypical members of each category.

As noted above, a useful way of determining where an element falls is by reference to various "tests", mostly language-specific "behaviors" (though some cross-linguistic universals or tendencies do emerge), that are typical of one or the other type; for the most part, affixes show a greater degree of idiosyncrasy along various parameters (e.g., following Zwicky & Pullum 1983, Zwicky 1985, rigidity in ordering, selectivity in coocurrence, etc.), whereas words show less idiosyncrasy, inasmuch as they are syntactic entities manipulated by rules of syntactic distribution, which are maximally general (refering to categories only, not to individual lexical items) and which feed directly into semantic interpretation (so that there is compositionality — i.e., a one-to-one mapping — between syntactic rules that build structure and rules of semantic interpretation).

An enumeration of the relevant elements is given in section 3, after which their analysis can be pursued.

3. The Range of Relevant "Clitic-like" Elements in Greek
Greek is rather rich in various "little elements" that pose interesting analytic problems. While these have typically been treated as if they were words (in some sense) or "clitics", some (especially those with grammatical functions) may be analyzable as affixes, possibly inflectional in nature (cf. Joseph 1988, 1989, 1990, 1994, 2000, Forthcoming). A fairly complete listing is given in (4):

(4) a. elements modifying the verb, clustering obligatorily before it (when they occur), marking:

subjunctive mood:	na (general irrealis) / as (hortative)
future (and some modality):	θa
negation:	δe(n) (indicative) / mi(n) (subjunctive)

b. elements (generally) correlating with argument structure of verb ("object pronouns"), occurring as closest element to verb (i.e., "inside of" modal etc. modifiers above), positioned before finite verbs and after nonfinite verbs (imperatives and participles); "ACC" stands for direct object markers, "GEN" for indirect object markers:

PERS	SG.ACC	SG.GEN	PL.ACC	PL.GEN
1	me	mu	mas	mas
2	se	su	sas	sas
3M	ton	tu	tus	tus
3F	tin	tis	tis	tus
3N	to	tu	ta	tus

c. weak 3rd person nominative (subject) markers (with two — and only two — predicates: ná '(t)here is/are!' and pún 'where is/are?'), always postpositioned and inseparable from the predicate):

PERS	SG	PL
3M	tos	ti
3F	ti	tes
3N	to	ta

d. "weakened" (NB ? weak forms, cf. below) nominatives (subject pronouns):

PERS	SG	PL
1	γo	mis
2	si	sis

e. attitudinal marker (of impatience), dé, always phrase-final (except for one fixed expression, dé ke kalá 'with obstinate insistence')

f. pronominal marking of possession within noun phrase (so-called "genitive" pronouns, typically occurring at the end of a noun phrase after noun and identical in form with weak indirect object markers but not in all behavioral aspects (see below, §5)):

PERS	SG	PL
1	mu	mas
2	su	sas
3M	tu	tus
3F	tis	tus
3N	tu	tus

g. definiteness within noun phrase (the so-called "(definite) article"):

CASE	M.SG	F.SG	NTR.SG	M.PL	F.PL	N.PL
NOM	o	i	to	i	i	ta
ACC	ton	tin	to	tus	tis	ta
GEN	tu	tis	tu	ton	ton	ton

h. the locative/dative preposition **s(e)** 'to; in; on; at', always phrase-initial, attaching to whatever occurs next in the noun phrase (but not necessarily always "clitic"; see below)

and examples of each are given in (5), highlighted in **bold**:

(5) a. δe θa **ton**   páte   **s to** spíti su
    NEG FUT him/3SG.ACC go/2PL.PRES to the-house your
    'You won't take him to your house'

b. **as**   **min** **tus**   **ta**   púme   **ta** néa **mas**
    SUBJUNC NEG them/GEN them/NTR.ACC say/1PL the-news our
    'Let's not say our news to them'

c. **na**   **su**   éyrafe   o jánis
    SUBJUNC you/GEN write/3SG.PST.IMPFVE the-John/NOM.M.SG
    'John should have written to you'

d. pés   **to**   **dé**
    say/IMPV.SG it/ACC de
    'So say it already!'

e. pún   **dos?**   Ná   **tos!**
    where-is he/WK.NOM   here-is he/WK.NOM
    'Where is he? Here he is!'

f. kséro   **yó**
    know/1SG I/NOM(WKNED)
    'How should I know?'

In what follows, an analysis is given of these elements with respect to how they interact with and shed light on an identification of 'word' in Modern Greek, though due to space limitations, attention is focused here primarily on the weak object pronouns (4b) and the genitive possessives (4f); some discussion concerning the other elements can be found in Joseph (1990, 1994, 2000).

4. Toward an Analysis: Different Notions of Word

As noted in Section 1, with regard to (3), it may be that separate notions of 'word' need to be recognized for different levels of grammatical analysis. For one thing, there is the notion of 'grammatical word', which represents 'word' as listed in lexicon (there being nothing in Greek like verb + particle combinations of English), and thus takes in the major syntactic categories (noun, e.g. **spíti** 'house'; verb, e.g. **lín-** 'untie'; adjective, e.g. **árosto-** 'sick'; preposition, e.g. **apó** 'from'). Some issues that arise relevant to this notion of 'word' involve first of all the representation of inflection: perhaps, as with Lyons 1968, what the lexical listing consists of is the **stem** (which might be thought of as thus representing the **lexeme**) and inflected forms (where they exist) are the actual **grammatical words**. Also, the representation of the "little words" of (4) becomes an issue. Many of them have grammatical function (e.g. the elements of the verbal complex) and so they could be **inflection**, properly constituting part of a **grammatical word**. Alternatively, they could be separate **grammatical words** in their own right. Similarly, to the extent that any of these elements, being members of major syntactic categories, are manipulated by the rules of syntax, they can also be considered **syntactic words**.

Another level of analysis in which a separate notion of 'word' might be useful concerns the phonology. For instance, the phonotactics of the language could conceivably provide some insight into how to identify a word, if, for instance, there were some combinations of sounds that only occurred word-initially or word-finally (as considered briefly in Joseph 2000). Further, the phonological generalizations in the language might be such as to require reference to an entity that might involve separate grammatical or syntactic words (appropriately defined) that do not behave in ways that are fully phrasal (where a phrase is taken to consist of concatenated independent syntactic words). This depends to some extent on how all the "little elements" with grammatical values are analyzed; if they are inflectional affixes, then much of what might be called a 'phonological word' is simply created by regular word-formation and inflectional processes. A promising domain of this sort that other analysts have considered for Greek involves morphophonemics and especially nasal-induced voicing; thus the next section considers this type of evidence for a notion of 'word' in Greek.

5. Morphophonemics and the Word, and a Foray into Dialect Evidence

The key morphophonemic alternations in Greek that show interesting interactions with various notions of 'word' are those arising from the nasal-induced voicing of the voiceless stops /p t k/. Moreover, a consideration of these alternations requires some recognition of dialect differences in Greek, where "dialect" is to be understood in broad sense, reflecting individual or socially determined varieties, in addition to the more traditional geographic/regional varieties. Furthermore, these alternations lead to an interesting result regarding possessives and weak pronouns, a result that finds support in regional dialect differences.

The basic relevant facts can be summarized as follows (see Arvaniti & Joseph 2000 for

additional discussion and references). Phonologically, the status of the voiced stops [b d g] is tricky. At the lexical level (what corresponds to "grammatical word" in traditional terms), for many (now generally older) speakers, excluding recent loans, [b d g] occur by themselves only word-initially and occur medially only after a nasal; thus **brostá** 'in front' but **émboros** 'merchant' (not ****éboros**). Moreover, again excluding recent loans, there are no cases word-internally of a nasal + voiceless stop (i.e. no cases of [...**VmpV**...]). But even for (some) such speakers, the initial stop can sometimes be lightly pre-nasalized in some words, and medially, the preceding nasal consonant can be quite "weak" and sometimes even absent (all subject to a complex of factors including addressee, style, speech rate, etc.), i.e. [**ᵐbrostá**] / [**éᵐboros**] ~ [**éboros**]. Further, for some (mostly younger) speakers, the nasal is (almost) categorically absent. This distribution, even for older speakers, has been somewhat disrupted by loan words, so that again, for *some* speakers, a word such as **robót** 'robot' has only a voiced stop (i.e., [...**b**...] not [...**mb**...]) and **sampánja** 'champagne' shows no medial voicing (i.e., [...**mp**...] not [...**(m)b**...]), though for *others*, there can be voicing in such loans and/or borrowed medial voiced stops can be "propped up" with a nasal, giving [sa(**m**)bánja] and/or [rombot]).

There are, however, additional relevant facts: at the phrasal level, involving combinations of some of the "little elements" of (4) with a "host" element, final nasals induce voicing on following voiceless stops at boundaries (and the nasal undergoes place assimilation); e.g.:

(6)   /ton patéra/ 'the father/ACC' —> [tom batéra]
            /tin píraksa/ 'her I-teased'   —> [tim bíraksa]
            /ðen pirázi/ 'not it-matters' —> [ðem birázi]

Optionally (again subject to a complex of factors), in these combinations, the nasal can be weak or even absent, but also, for some speakers, sporadically, there is no voicing whatsoever and sometimes just deletion of the nasal, e.g. [ti(**n**) píraksa] 'I-teased her'.

Some linguists have taken the voicing in these combinations as evidence that a level of phonological word must be recognized, combining grammatical/lexical/syntactic words into phrases in which certain phonological effects are located. It is important in this regard to note that the voicing effects, while similar to what is found word-internally, are not identical; for instance, the [ti(**n**) píraksa] outcome is not found in medial position. Alternatively, if the "little elements" are affixes, one could point to the similarity of the "boundary" phenomena to word-internal combinations with voiced stops, and treat the [ti(**n**) píraksa] outcome as part of the idiosyncrasy of affixal combinations, thus considering the construct as a **morphological word** or perhaps **morphosyntactic word**, with the affixes as the realization (the "spelling-out") of various features, such as [+negation] or [+3SG.FEM.DIR.OBJ]).

Still, some voicing can be induced by what must be a word in any approach, namely the complementizer **án** 'if', as in /án pó/ 'if I-say' —> [ám bó], for some speakers (maybe only

in fast speech). This fact by itself might tip the balance in favor of the (grammatical-words-combining-into-a-) phonological-word approach and against the affixal/morphological-word approach, except that for some speakers, the usual outcome of /án pó/ is [ám pó], which is definitely not a word-internal type outcome, and in any case it can never become **[a bo], even for speakers who usually do not have a nasal with a voiced stop word-internally. Therefore, there is a real difference between combinations with articles, pronouns, etc. and combinations with more clear-cut grammatical words. While this might be taken by some as evidence for an intermediate construct such as "clitic", it can just as easily be accommodated in the approach advocated here, as atypical word- or atypical affix-behavior. That is, a word-final -n would not typically trigger voicing on a following stop, but atypically, the word an would be such a trigger. Affixes such as the direct object marker tin 'her' would typically trigger voicing, but idiosyncratically (thus, atypically) could fail to (giving the ti(n) píraksa outcome).

There is yet more, however, to consider. The genitive weak pronoun used for marking indirect objects is identical in form to the genitive weak pronoun used for marking possession (cf. (4)), but they show different behavior vis-à-vis nasal-induced voicing. In particular, the object pronouns, which are affix-like in showing idiosyncrasies, high selectivity, strict ordering, etc. (see Joseph 1988, 1989, 1990) are voiced post-verbally after the imperative singular of káno 'do, make', the only context in which a weak object pronoun occurs after a nasal-final host in the standard language, e.g. /kán tu mja xári/ 'do for-him a favor' —> [ká(n) du ...]. But the homophonous possessive pronoun tu 'his' in ton anθrópon tu 'of his men' (literally, "of-the-men/GEN.PL of-him") interestingly does not undergo voicing (thus, [...n t...]). Most treatments label both of these as "words" (e.g. "clitic words"), but their differential behavior here is reason for separating them, despite their homophony, and thus under the bipartite division adopted here for treating the object pronouns as affixes and the possessives as words. Relevant here is the fact that the possessives are unaffix-like in being able to move around within the noun phrase; that is, both o kalós fílos tu 'the good friend of-him' and o kalós tu fílos 'the good of-him friend' are acceptable for 'his good friend'. At the least, however, nasal-induced voicing should probably be separated into a couple of (sub-)processes, and one possible generalization for voicing is that prosodically weak words cannot undergo post-nasal voicing. While one might say that the possessives are thus true clitics, an appeal to typical and atypical behavior for words can work just as well — the prosodic weakness they show would be atypical for a word, but it would give a basis for distinguishing the possessives from the weak indirect object pronouns without recourse to a separate construct of "clitic" or "phonological word".

Separating possessives from indirect object weak pronouns, as suggested by this nasal-induced voicing evidence, finds support from dialect data. In particular, in the northern dialects of Greek we find ACC for GEN (e.g., 2SG se for su), for indirect object weak pronouns, e.g. (se δíno 'I give to you', but not for possessives, e.g.ta érya mu 'my works' but not *ta érya me. Thus, at least at the point of development of the northern dialects, POSS and INDIR.OBJ pronouns, in spite of their identity of form, were kept separate by the

grammar. Their functional differentiation can be invoked here, but it is consistent with their distinct behavior vis-à-vis voicing and is suggestive of their simply being distinct grammatical units, each with its own set of properties despite being homophonous.

6. Suprasegmentals and 'Word', with More from Dialects

I turn now to another phonological domain, that of suprasegmentals, for the occurrence of stress accent (potentially) bears on definition of 'word'. Two aspects pertaining to stress are relevant here: the number and placement of the accent.

In general, there is at most a single main stress accent in a grammatical word, underlyingly (in its lexical form), and it must fall on one of the last three syllables. The feminine nouns in **-ia** show all the possibilities: **peripétia** 'adventure' vs. **δimokratía** 'democracy' vs. **omorfiá** 'beauty'. When a clear inflectional suffix is added to a stem, it can trigger a rightward accent shift in a stem that has (lexical) antepenultimate accent, e.g.:

(7) ónoma   'name' (NOM/ACC)
     onóma-tos   'of a name' (GEN)

This phenomenon has traditionally been treated as consistent with a principle that the accent in a grammatical word can be no farther from the end of the word than the antepenultimate syllable.

On the other hand, when a pronoun (including the possessives) is added to the **end** of a word with antepenultimate accent, it triggers an accent **addition** on the syllable before the pronoun (and a reduction of antepenultimate accent):

(8)   to ónoma 'the name' / to ònomá tu 'the name his' (i.e., 'his name')
       kítakse! 'look!' (IMPV.SG) / kìtaksé me 'look at me!'

This has also traditionally been treated as induced by ban on accent farther from end than antepenultimate syllable (with the reduction triggered by a ban on more than one main stress in a word).

For linguists inclined to treat pronouns as word-like entities of some sort (e.g. "clitics", with their own maximal projection in the syntax), these facts have motivated a higher level construct such as "prosodic word" (implicit in the accounts of Arvaniti 1991, 1992) or "clitic group" (Nespor & Vogel 1986), or perhaps simply "phonological word", since the pronouns behave differently from clear affixes (which shift accent, cf. (7)) and from clear word combinations (which have no accentual effect, with each word rather having its own accent). Such a construct could be seen to lend support to the phonological word analysis of nasal-voicing, discussed in §5.

Thus this differential behavior regarding accentual effects on the part of clear affixes, clear

words, and the pronouns *could* provide a basis for distinguishing the weak object and possessive pronouns from "true" affixes.

However, it must be noted that there are several idiosyncratic accentual effects associated with affixes. For instance, the neuter GEN.SG -**tos** provokes placement of accent on second syllable to the left of it; usually, this entails a shift of basic accent position to right by one syllable, as in (7) **ónoma/onómatos**, but with shorter stems, there is no shift, only placement two syllables away', e.g. 'verb' **ríma//rímatos**). Similarly, the neuter GEN.PL marker -**ton** provokes placement of accent on syllable immediately to the left of it; usually this entails a shift of basic accent position to right by two syllables, e.g. 'name' **ónoma/onomáton**, but, again, with a shorter stem, this is effected differently, with a rightward shift by one syllable, e.g. 'verb' **ríma/rimáton**). Moreover, there are some affixes that are always accented, e.g. the past imperfective marker -**ús**- (as in 1SG **filúsa** 'I was kissing'), and some that are never accented and provoke no accent shift, e.g. the 1PL -**me** (as in **línome** 'we are untying'). Therefore, the accent addition with weak pronouns, if they are treated as affixes, could simply be yet one more idiosyncratic accentual effect associated with an affix.

Admittedly, the possessive pronouns also provoke accent addition (cf. (8)), so if one were to say that for this reason they are "clitics" (or atypical, i.e. prosodically special words), one could argue that the weak pronouns should fall into same category. Otherwise, the argument would go, the grammar would have duplication through the multiple statements needed for accent addition, in that some affixes would do it and so would "clitics" (or some words). However, it has already been shown in §5 with regard to nasal-voicing that that there are differences (at least for some speakers) between weak pronouns and possessives. Somehow, therefore, these two elements need to be differentiated in the grammar; thus if accent addition with the possessives and weak pronouns is consistent with their both being words, the post-nasal voicing facts are consistent with their each being a different kind of element.

Relevant here is the fact that there are prosodically weak words, in particular the attitudinal marker **dé**, that have different accentual properties. **dé** always "leans" on the end of a host but **never** provokes accent addition: δokímase 'try!' (IMPV.SG) / δokímase **dé** 'try already!' (not: *δokímasé de). Therefore accentually, **de** and the possessives like **tu** 'his' have to be differentiated, so that even within that potential class of elements — let's call them 'words' — accentually distinct behaviors must be stipulated. One could say possessives are "true" clitics, but if accentual behavior is the reason, then presumably the weak pronouns belong in the same class; but what then of the post-nasal voicing differences? Should the grammar recognize **four** (or even more) distinct (basic) morphosyntactic elements: word vs. possessive-type "clitic" vs. weak-pronoun-type "clitic" vs. affix?

My solution here is to recognize only affix and word, and to set some tokens apart within

those categories, by way of recognizing different behaviors and realizing that affixes can show various idiosyncrasies. This may also entail giving up on trying to generalize over accentual behavior as a way of differentiating basic morphosyntactic element **types** (though recognizing differences within larger types). Some words may be atypical accentually, e.g. the possessive pronouns, and others may be accentually normal but prosodically atypical in another way, e.g. the attitudinal marker **dé**. Some affixes are accentually neutral (e.g. 1PL - **me**), presumably the typical case, whereas others provoke various accentual adjustments, e.g. genitive singular -**tos** or genitive plural -**ton** or weak object pronouns.

There is some relevant dialectal data that bears on this analysis. In particular, in various dialects, as discussed by Newton 1972, the same sort of accentual adjustment found with the possessives and the postverbal weak object pronouns can be found with the addition to a stem of some disyllabic forms that ostensibly are affixes. For instance, in Thessalian alongside the 1SG form **érxu-mi** 'I come' with, as expected, a single antepenultimate accent, there is the 1PL form **érxu-másti** 'we come' with "double" accent similar to the pattern found in (8); such forms contrast with the situation in Standard Moder Greek, where the 1PL is **erxó-maste**, with shifted accent vis-à-vis 1SG **érxo-me**. This double accent in apparently affixal formations is found also in Cretan, and elsewhere. In such dialects, accent "adjustment" in longer forms thus is *not* a basis for distinguishing a class of "clitics" (a situation consistent with affixal analysis advocated here with accent adjustment just one of several possible idiosyncratic accentual effects shown by affixes), unless one takes the potentially circular step of saying that these endings in such dialects have been reanalyzed as "clitics".

Moreover, there are dialects in which the main word accent is more than three syllables from end. For instance, in Northern Greek dialects in the Crimea, as reported on by Dellopoulos (1977), one finds forms like **timázanandini** 'they were preparing' (Urzur-Yalta dialect, cf. Standard Greek **etimázondan**), or in Rhodian, as reported on by Newton (1972) the form **érkumeston** 'we were coming' occurs (cf. Standard Greek **erxómastan**). Furthermore, Newton 1972 notes there are dialects with *no* accent adjustment with addition of weak pronouns, e.g. Cypriot **skótose ton** 'kill him!' (*not* skótosé ton), **to fórema mu** 'my dress' (*not* to foremá mu), and states that such forms "occur ... in the standard language", citing **fére mu to** 'bring it to me!' (though **fére mú to** is also possible).

What all this means about accent, in my view, is that it is admittedly a way in which one *might* motivate an affix vs. clitic distinction, or a grammatical word vs. phonological word distinction, but it is not clean, and as long as there is messiness, it is not clear what the benefits are. Moreover, the dialect evidence provides a glimpse of what a form of Greek could be like with regard to accent in longer forms — accent adjustment is not an essential part of being a form of Greek (leaving aside the difficult question of course of what it means to be a "form of Greek"); as such, accent adjustment can be viewed as needing to be stipulated, a position entirely consistent with the analysis adopted here whereby the accentual adjustments are effects found with certain prosodically deficient words (thus with

tu 'his' but not with the attitudinal marker **dé**) and with some affixes (specifically, the weak object pronominal affixes).

7. More on Weak Pronouns — And, More on Dialects

The nasal-induced voicing evidence and the accent evidence show that there is no bar to treating weak pronouns as affixes; there is also some positive evidence based on the criteria for affixhood given by Zwicky & Pullum 1983: *fixed order* (any order different from (5) for these elements is impossible); *selectivity in cooccurrence* (e.g. the weak accusative pronouns are not objects of prepositions, etc.); and, *semantic and morphosyntactic idiosyncrasy*, as shown by the nonreferential and counter-valent occurrence of the weak object pronoun **tin** in an expression such as that in (9):

(9) pú   θa   tin   pésume
    where FUT her/WK.ACC fall/1PL
    'Where will we go?' (literally: "*Where will we fall her?")

Moreover, optionally, and admittedly with a somewhat marked stylistic status, word-internal placement of the weak pronouns is found in some constructions in Standard Greek, as in (10) (from Athanasios Kakouriotis, personal communication 1988):

(10) éxe - mú   - te   embistosíni (cf. **éxete** 'have/IMPV.PL!')
     have me/IND.OBJ IMPV.PL faith
     'Have faith in me!'

a phenomenon that points to affixal status for the weak pronouns, since, assuming "lexical integrity", a word should not be able to be positioned internally with respect to another word, whereas an affix of course could be word-internal. Interestingly, there are dialects more widespread instances of word-internal placement of weak object pronouns. Tzartzanos 1909 and Thavoris 1977 have given examples from central Greece, e.g. Thessaly, as in (11), and similar phenomena are reported for Cappadocian in Janse 1998:

(11) **pémti** '(y'all) tell me!' (as if Standard **pés-mu-te**)
     δómti '(y'all) give me!' (as if Standard **δós-mu-te**)
     fériméti '(y'all) bring me' (as if Standard **fére-mú-te**)

The **-m-** in the first two forms in (11), originally from the weak 1SG pronoun, may now simply be an odd stem extension, since Tzartzanos reports that overt objects in more usual positions can co-occur, e.g. **pémti mi ki ména** '(y'all) tell *me*!' (literally "**pémti** me even me!"). However, at the point at which the **-m-** first came to occur internally, it presumably had pronominal value and in any case, the fuller form **-me-** in **fériméti** is harder to explain as simply a stem extension. Thus non-word-like placement for the weak pronouns must be accepted as a fact about these pronouns, perhaps most strongly in the regional dialects than in the Standard language, but certainly so for Greek in general.

Finally, there is a further matter pertaining to the positioning of weak pronouns that is relevant to the question of their possible affixal status, and where again, regional dialect facts form an important consideration. In particular, apart from the occasional internal placement seen in (10) and (11), weak pronouns in Standard Greek are generally placed before (i.e., to left of) the verb, but can be after (i.e., to the right of) the verb. Moreover, a few expressions occur in the standard language, e.g. **patís me pató se** 'hustle-bustle' (literally "you-step-on me I-step-on you") with finite verbs but a post-positioned weak pronoun (cf. Mackridge 2000). Some analysts might argue that this differential placement reflects movement, and, since stylistic permutation is characteristic more of words manipulated by the syntax than of affixes manipulated by the morphology, it could be taken as counter-evidence to the affixal analysis advocated here. However, this differential placement is **not** random or stylistically controlled, but rather is for the most part **grammatically** determined: weak pronouns are positioned before **finite** verbs (indicatives and subjunctives) and after **nonfinite** verbs (participles and imperatives), e.g. (cf. Joseph 1978/1990, 1983), as exemplified in (12):

(12) a. γrápste to! (*to γrápste) 'Write it!' (imperative)
    b. to γrápsate (*γrápsaté to) 'You wrote it' (indicative)

In and of itself, therefore, the facts of (12) could be just a matter of the spelling-out of grammatical feature and not evidence of syntactic movement. And, relatively fixed or frozen expressions like **patís me pató se** could simply reflect some futher idiosyncratic behavior in the standard language for the weak pronouns that is consistent with affixal analysis.

It should be noted here that there are some dialects in which weak pronouns are post-verbal with *all* verbs, e.g. Cretan **ákusá ton** 'I heard him'. It is even the case that some dialects into the modern era, e.g. Cappadocian (Janse 1998), have (or at least had, as did earlier stages of Greek) Wackernagel's Law positioning of weak object pronouns, with the weak pronouns occurring in second position within appropriate phrasal or clausal domains. Given these differences between Standard Greek and the regional dialects, one might want to argue that they offer a pan-Hellenic argument for the weak pronouns as syntactic entities. Quite to the contrary, though, these differences may simply reflect a different status for these elements in each dialect: Wackernagel-type elements may well be syntactic in nature, still prosodically weak words, for instance. In the case of the Cretan (etc.) vs. Standard language differences, they might indicate different syntactic systems, or maybe, if weak pronouns are a matter of morphology, the differences might be explicable in terms of differences in word-formation processes and especially in spell-out rules for inflectional morphology. It need not be the case, therefore, that the dialect differences tell us anything more than the system that each dialect has, in its own terms, and a priori need not point only to a syntactic treatment of the weak pronouns.

As an aside, it can be noted that these dialect differences provide a basis for rationalizing

the occasional phrases with postposed pronouns on finite verbs in the Standard language; that is, expressions like **patís me pató se** may well be the result of *dialect borrowing*. In that way, the overall set of dialect differences in Greek has contributed to how weak pronouns are to be analyzed in standard Greek by providing some idiosyncrasies of placement in these fixed phrases.

8. Conclusion

All of the preceding sections, through their examination of the weak pronouns, one of the key types of "little elements" that pose problems for the identification of the construct "word" in Modern Greek, provide a clear basis for understanding the notion of "wordhood" for this language. Working within a restrictive framework that allows only words and affixes as basic units, and degrees of atypicality within those basic categories, one can account for all the properties shown by combinations of weak pronouns with their verbal hosts, inasmuch as the evidence points towards weak pronouns as being affixes and thus the host-plus-weak-pronoun combinations as being simply words built up in the lexicon via word-formation processes embellished via inflectional processes. To be sure, there is much to be said regarding the other "little elements" that bears on the determination of what a word is in Greek (see, for instance, Joseph 1990 regarding negation) but the foregoing gives an idea of how argumentation concerning those elements could go.

Much of the discussion has also concerned dialects, and this raises two general points. First, some dialects appear to be more "advanced", so to speak, than the standard language, in that the indications of affixal status for the weak pronouns seem stronger in some dialects than in the standard language and may have been reached earlier chronologically. Thus in a sense, each dialect must be examined on its own terms, even if a pan-Hellenic picture can emerge concerning these elements. This leads therefore to the second point, an interesting meta-question that is more methodological in nature.

In particular, a general question to ask when invoking dialect evidence is whether dialects reveal anything about the standard language. In cases of dialect borrowing, as indicated above, they might provide some relevant evidence for or against a given analysis, but does a comparison of two different dialects tell us how to analyze either of those dialects? Perhaps they can, but only to the extent that an analysis of some arbitrary language, e.g. French, can reveal something about how to analyze some other arbitrary language, e.g. Chinese. Alternatively, one might argue that Dialect A may not be the same as Dialect B, but it is as close to B as *any* speech-form could be, without being A itself, so that the analysis in one can indeed carry over into the other. Moreover, it is clear that some dialects might provide some insight into *where* another dialect might be headed, if, for instance, one dialect possibly shows an extension of what is just below the surface, so to speak, in another. In any case, at the very least, the dialect evidence is interesting in its own right, whatever it might tell us about Greek in general or about the most typically cited type of Greek.

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AN OPTIMALITY THEORETIC ACCOUNT
OF THE (WEST) CRETAN DIALECT

Abstract

The paper offers an analysis of the onset obstruent clusters of the dialect spoken in the west part of Crete (WC-dialect). These onset obstruent clusters surface as violators of Sonority Sequencing Principle and differ from the corresponding clusters of the standard Modern Greek (MG) in the following way: the members of such a cluster in MG conforms to the constraint of different manner of articulation, whereas the members of such a cluster in WC-dialect violate this constraint. FS clusters (unmarked) and FF clusters (marked) are allowed to surface in the WC-dialect. The shape of the clusters are regulated by a set of markedness constraints stated over the feature [continuant] which interact with Faithfulness (in this case with the IDENT (F manner) constraint) and the data provide also crucial evidence for the activity of the constraint *SO. The problematic cases which deviate from the proposed constraint ranking can be treated, if we consider a reranking of the constraints.

1. Introduction

The languages of the world differ in the structure of their onsets. There are languages that allow only simple onsets, whereas other languages allow consonantal clusters in onset-position with different degree of complexity. The languages with complex onsets obey the Sonority Sequencing Principle (SSP) (see Steriade 1982, Selkirk 1984 among others) and allow core clusters. Other languages allow clusters that do not conform to the SSP generalisations and these clusters are considered as violators of SSP (e.g. 's+Stop' clusters).

In the present paper I will describe and analyse the onset obstruent clusters of a Greek dialect, that of Western Crete (WC). These onset obstruent clusters surface as violators of SSP and differ from the corresponding clusters of the standard Modern Greek (MG) in the following way: the members of such a cluster in MG conforms to the constraint of different manner of articulation, whereas the members of such a cluster in WC dialect violate this constraint, e.g. two fricative segments occur on the surface as members of an onset-cluster ([fç], [θç], [xs]) or the members of an obstruent cluster in WC dialect share the same feature for [voicing]. For the purposes of the paper I will provide a constraint-based analysis within the framework of Optimality Theory (Prince & Smolenski, 1993; McCarthy & Prince, 1995), which give us the tools for a principled and formal account of the markedness relations observed in the data. I propose that the shape of the clusters in WC-dialect are regulated by a set of structural constraints stated over the feature [continuant] which interact with Faithfulness, and I provide the constraint ranking that will define the individual grammar of the WC-dialect.

2. Surface Onsets and Codas

This paper is part of a study on the phonological structure of the dialect of West Crete. I will present briefly the syllabic structure of the WC dialect, i.e. the possible onset types and the coda condition, and then I will focus my attention on the description of the 2-member obstruent clusters.

2.1. Onset types

Single Onsets:

Any consonant may occur syllable-initially as a single onset.

2-member Onsets:

Onsets consisting of [Obstruent + Nasal] or [Obstruent + Liquid] may be realised in the dialect in syllable-initial position. The homorganic sequences do not surface in the dialect, i.e. *[pm], *[tl], *[tn], *[sl], *[sr] etc. (OCP$_{PLACE}$.)

Clusters consisting of [Obstruent + Obstruent] also surface:

- Fricative + Stop [ft, xt, fk, st, sk,sf]
- Fricative + Fricative [θç, fç, xs]
- Stop + Fricative [pç], but *[tç, kç]

3-member Onsets:

Clusters consisting of [Fricative + Stop + Nasal] or [Fricative + Stop + Liquid] surface in onset position. The clusters [xtr, xpl, ftr, stm, skn, skr] occur word- medial, and the clusters [skn, skr] word-initial.

Clusters of [Fricative + Fricative + Fricative] occur also:

[fθç],   [sθç]:

afθça (ears),   anosθça (tastlessness)

Clusters of [Stop + Fricative + Fricative] occur also

[psç]:   [ksç]:

anipsça (nephews)   ksça su (do as you please !)

4-member Onsets:

The dialect does not allow onsets consisting of 4 members:

[-fstr] → [-Østr],   [-fspl] → [-Øspl]

MG.	WC Dialect	Gloss
[afstria]	[astria]	(Austria)
[efsplaxnia]	[esplaxnia]	(compassion)

The first member [f] of the cluster is deleted, due to the fact that it is not possible for it to be syllabified either in onset or in coda-position, thus the words [afstria] and [efsplaxnia] are realised as [astria] and [esplaxnia].[1]

2.2. Codas

The WC dialect shows preference for open syllables. Nasals are not permitted in Coda position, either syllable-final or word-final. Syllable-final are deleted, word-final are either deleted or occurs epenthesis of [e].

The lateral [l] is often replaced by [r] in coda position. [s] occurs word-final as morphological marker (but sometimes is [s] deleted, exhibiting the tendency of the dialect for open syllables)

*C $]_\sigma$
Nasal
Lateral

Deletion of [n], or **CV** syllable (via epenthesis)

	MG.	WC Dialect	Gloss
• word final:	kaθíkon	[kaθíko]	(duty),
	tón	[tóne]	(Art. Gen.PL)
• syllable final:	án. θos	[á. θos]	(flower)
[r] occurs syllable-final:	el. píða	[er. píða]	(hope)

[s]: word-final as part of the morphological marker ([s] is sometimes deleted).

Supporting evidence for the Coda Condition of the dialect offers us the Turkish loan words, which are incorporated in the lexicon of the dialect. The following examples show that Nasals and Stops are not allowed in Coda position, and the dialect repairs it via epenthesis, creating an open syllable.[2]

Loan words (from Turkish)[3]

Turkish:	WC Dialect	Gloss
kam . cí	ka . mu . cí	horsewhip
sam .dán	sa . mu . dá . ni	candlestick
ka . pat . má	ka . pa . tu . má	force sb. into marriage

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[1] An analysis of the syllable-structure, syllabification etc. of the WC Dialect is beyond the scope of this paper and it is an issue of a further study.

[2] These few examples show also that the dialect seems to preserve the Turkish Vowel Harmony of backness/frontness, but this issue is beyond the scope of this paper.

[3] Data from informants.

3. On the Typology of Obstruent Clusters

Morelli (1998, 1999) proposed a universal typology of onset obstruent clusters, based on a cross-linguistic study of 25 languages belonging to different language families. She points out that there are four possible ways in which stops (S) and fricatives (F) can be combined and form a cluster in the languages of the world.

FS	(e.g. Greek, English /st/, Havasupai /θp/, German /ʃt/)
SF	(e.g. Greek, Wichita /ks/, Paipai /px/)
FF	(e.g. Greek, Italian /sf/)
SS	(e.g. Greek, Khasi /pt/, Georgian /t'pʰ/)

With respect to *Sonority Sequencing Principle* (Selkirk,1984; Steriade,1982 i.a) SF clusters are wellformed and FF/ SS /FS clusters are ill-formed.

(1)   *Sonority Sequencing Principle* (SSP)

STOPS < FRICATIVES < NASALS < LIQUIDS < VOWELS
(< : less sonorous than)

Morelli (1998) argues that SSP is not relevant to the construction of obstruent clusters because it fails to account for the markedness relations and the implicational universals observed in the typology of onset obstruent clusters.[4] She points out that the FS cluster is the only cluster that can occur in isolation, it is always present and the presence of other types of combinations always implies its presence. The presence of a sequence of 2 fricatives always implies the presence of FS clusters, but it seems to be independent of the other two types of clusters, i.e. SF and SS. Morelli establishes the markedness relations among the clusters comparing the relative harmony of the forms with respect to some constraint (2a).

(2a)   Harmonic orderings (Morelli, 1998, 1999)

i) FS > FF,
ii) FS > SF > SS   (>: more harmonic than)

The presence of a FF cluster in a language always implies the presence of a FS cluster. Morelli proposes the following structural constraints (2b) for the establishment of the harmonic orderings.

(2b)

OCP[-cont], OCP[+cont]: adjacent segments with the same value for continuancy are disallowed

*SO: a tautosyllabic sequence of a stop and any obstruent is disallowed.

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[4] Morelli (1998) points out that it has been recognized in the literature that an analysis of such clusters must be found outside sonority.

The interaction of the 3 structural constraints above Faithfulness will account for the relative well/ill-formedness of each cluster within a language (Tableau in 2c).

(2c)

	OCP[+cont]	*SO	OCP[-cont]
☞ a. FS	√	√	√
b. FF	*	√	√
c. SF	√	*	√
d. SS	√	*	*

By interleaving the markedness constraints (OCP[-cont], OCP[+cont], *SO) with Faithfulness for [continuancy], a full typology of onset clusters is obtained, as well as its implicational universals (cf. Morelli, 1999). 6 different grammars or language types result from the rerankings of the constraints (2d).

(2d)

Language Types	Constraint Rankings
Type 1: FS	OCP[+cont], OCP[-cont], *SO >> Faith
Type 2: FS, FF	------------ OCP[-cont], *SO >> Faith >> OCP[+cont]
Type 3: FS, SF	OCP[+cont], OCP[-cont] ----- >> Faith >> *SO
Type 4: FS, SF, FF	------------ OCP[-cont] ------>> Faith >> OCP[+cont],*SO
Type 5: FS, SF, SS	OCP[+cont] ----------- ----- >> Faith >> OCP[-cont],*SO
Type 6: FS, SF, FF, SS	Faith >> OCP[+cont], OCP[-cont], *SO

The ranking for the language type 1, allows only FS clusters to surface. FS is the unmarked cluster with respect to all markedness constraints, therefore whatever ranking is established, it will always surface. It is only necessary that the markedness (structural) constraints dominate Faithfulness. Modern Greek (*dimotiki,* the common spoken language) belongs to Type 1 (cf. Morelli, 1999:80ff).

4. Data

The source of these dialect data is the material collected by Kondosopoulos (1959, 1969), Ksanthinakis (1996) and Pagalos (1955), as well as data from informants. In the WC dialect consonantal clusters surface as well consisting of [fricatives+stops], [fricatives+fricatives], and [stops+fricatives]. These surface representations do not conform to the corresponding representations in MG. We observe that the WC dialect favours obstruent clusters beginning with a fricative, achieving this via assimilation as in (3c), as well as clusters beginning with a fricative, but with different manner of articulation among the members of the clusters, as in (3a, 3b through dissimilation of the second member of the clusters). The members of the clusters must also share the same value for the feature [voice], as in (3a-d).

4.1. Surface representations in WC dialect:

WC	MG[5]	Gloss

3a. *Fricative + Stop* (FS)

WC	MG	Gloss
[prosefk´i]	[prosefçi / prosefk´i]	pray
[eftis]	[efθis / eftis]	straight / at once
[extimo]	[ektimo / extimo]	appreciate, 1. SG.
[extropi]	[ektropi / extropi]	diversion
[expliksi]	[ekpliksi]	surprise
[çilofta]	[çilopita]	(a kind of noodles)
[katoftro]	[katoptro / katoftro]	mirror
[expliksi]	[ekpliksi]	surprise

3b. *[s] + Stop*

WC	MG	Gloss
[skoli]	[sxoli / skoli]	school
[skeðio]	[sxeðio / skeðio]	plan
[eskros]	[esxros]	disgraceful
[isknos]	[isxnos / isknos]	skinny
[mistos]	[misθos / mistos]	salary
[astma]	[asθma / astma]	asthma

3c. *Fricative + Fricative* (FF)

WC	MG	Gloss
[teθça]	[tetja]	such, Adj. 1. Pl.
[xarθça]	[xartja]	papers
[θça]	[θja / θça]	aunt
[γleðja]	[γledja]	feasts
[ðoðja]	[ðodja]	teeth
[xorafça]	[xorafja / xorafça]	fields
[fsiçi]	[psiçi]	soul
[afsixo]	[apsixo]	lifeless
[xsenos]	[ksenos]	foreigner
[afiloxsenos]	[afiloksenos]	inhospitable

3d. *Stop + Fricative* (SF)

WC	MG	Gloss
[pçano]	[pjano / pçano]	catch, 1. Sg. PR.

3e. *Stop + Stop* (SS)   *[pt], * [kt]

4.2. Analysis of the Obstruent Clusters in the WC Dialect

The dialect of West Crete belongs to language type 2, i.e. FS and FF clusters are allowed to surface (according to the typology in 2d). We will argue that the unmarked case for the obstruent clusters in the WC dialect are the clusters containing a fricative followed by a stop (FS clusters) and the obstruent clusters consisting of a sequence of two fricatives (FF clusters) constitute the marked case. The surface representations of these clusters do not obey to the *Sonority Sequencing Principle*, that fails to account for their occurrence. This suggests that SSP is not responsible for their construction. The shape of these obstruent clusters are regulated by a set of structural constraints (4) stated over the feature [continuant] which interact with the Faithfulness constraint (5).

(4) *Markedness constraints:*

OCP [cont]:   adjacent segments with the same value for continuancy are disallowed
*SO :   a Stop followed by any Obstruent is dissalowed in the WC dialect
AGR [voicing]: the members of the clusters must share the same value for voicing.

(5) *Faithfulness constraint:*

IDENT (F manner): Identity between Input and Output correspondent for the feature value
of manner (violation by assimilation/dissimilation).

The crucial Faith-constraint for the WC is IDENT(F manner) and the crucial Markedness-constraints are OCP[-cont], OCP[+cont] and *SO.[6] The proposed constraint ranking for the WC dialect follows in (6).

(6)   *Constraint ranking for the WC dialect:*

OCP[-cont] >> *SO >> IDENT(F manner) >> OCP[+cont]

The OCP[-cont] and *SO constraints must dominate the faithfulness constraint in order to prevent an input of the form SS or SF to surface in the dialect. On the contrary the faithfulness constraint IDENT(F manner) must be ranked low. As for the cluster FF, the necessary and sufficient condition that allows it to surface in the grammar is that the IDENT constraint dominates OCP[+cont].

The FF clusters of *katharevousa* Modern Greek are realised as the unmarked FS clusters in the *dimotiki* and in the (west) Crete dialect as well (7a).

(7a)   Examples: MG   MG-dimotiki / WC-dialect
                FF   *FS*
                [efθis]   [eftis]
                [sxeðio]   [skeðio]

---

[6] cf. Drachman & Malikouti-Drachman (1997) for Modern Greek and Cypriot.

The interconsonantal constraint OCP[+cont] prevents the input FF to surface, at the expense of the Input-Output faithfulness for the feature of [continuancy]. Given its unmarked status, the dissimilated cluster FS surfaces as a result of the constraint interaction. The relevant constraint that accounts for the neutralization of the marked FF cluster is IDENT(F manner) (7b)[7].

(7b)

INPUT: FF	OCP [-cont]	*SO	OCP [+cont]	IDENT (Fmanner)
☞ a. FS	√	√	√	*
b. FF	√	√	*	√
c. SF	√	*	√	*
d. SS	*	*	√	**

Also in (8a) the input cluster SS of MG-*katharevousa* is realised as a FS cluster in MG-*dimotiki* and in the WC dialect as well. The marked SS clusters are neutralized to FS clusters.

(8a)   Examples: MG   MG-dimotiki / WC-dialect
                      SS   FS
                   [ektimo]   [extimo]

The structural constraints OCP[-cont] and the *SO prevent the occurrence of a SS cluster (or a SF cluster), thus the optimal output is the dissimilated surface representation FS (8b).

(8b)

INPUT: SS	OCP [-cont]	*SO	OCP [+cont]	IDENT (F manner)
☞ a. FS	√	√	√	*
b. FF	√	√	*	**
c. SF	√	*	√	*
d. SS	*	*	√	√

In (9a) the input representation is a SF cluster and the optimal output is a more marked representation, i.e. a FF cluster. Although a SF cluster is well-formed according to the SSP, it fails to occur in the WC dialect.

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[7] The contraint ranking is that of MG (language type 1), because MG-*dimotiki* and WC dialect share in this case the same output forms. MG-*dimotiki* neutralizes all marked obstruent clusters to FS clusters, because all markedness constraints dominate the IDENT (F manner) constraint.

(9a)   Examples: MG   WC
                 SF   FF
                 [γledja]   [γleðja]
                 [tetja]   [teθça]

The above data show that both members of the cluster must share the same feature for [voicing], thus the constraint AGREE[voicing] must dominate, in order to prevent output clusters with a voice distinction. The constraint AGREE describes preferred unmarked configurations, i.e. voicing agreement in adjacent obstruents, and thus is able to trigger assimilation of obstruent voicing (Lombardi, 1999). But this unmarked configuration will only be able to surface when faithfulness constraints do not dominate. Another important point is that the AGREE-constraint is not inherently directional: the direction of assimilation will be a constraint interaction effect.[8] The *SO constraint prevents also the occurrence of a SF cluster. These structural constraints are responsible for the output representation of the FF cluster, although it violates the interconsonantal structural constraint OCP[+con] (9b).

(9b)

INPUT: SF [tj]	OCP [-cont]	AGREE [voice]	*SO	IDENT (F manner)	OCP [+cont]
a. SF [tj]	√	*	*	√	√
b. FS [θk']	√	√	√	**	*
☞c. FF [θç]	√	√	√	*	*

We need now to explain the behaviour of *STOP+s* clusters in the Dialect of West Crete. The SF clusters of MG are ill-formed with respect to the hierarchy defining the obstruent clusters and violate the higher ranked constraint *SO. In MG the SF clusters are repaired into the unmarked FS clusters, when created by affixation (10).

(10)   /plek + θika/→ plextika   (I was knitted)

But there are monomorphemic words within the lexicon of MG, that are not neutralized to FS sequences, if the SF cluster consists of a STOP followed by an [s], e.g. *ksenos* (foreigner). Moreover [STOP + s] clusters are even created, if in a sequence of two fricatives, the second one is a [s / z]. In this case the first fricative becomes a STOP and the strident does not change (11).

(11)   [γraf + so]   →   [γrapso]   (I write, Perfective-non Past)

---

[8] see Lombardi (1997), for data and analyses.

The constraint that preserves the input [s / z], even if it would result in a violation of the *SO constraint, is the correspondence constraint *IDENT[strident]* and this is active in the grammar of MG. It is ranked above *SO and results in an [STOP + s] output cluster, as in the word *ksenos*. I assume that the feature [strident] distinguishes [s /z] from all other Fricatives in Greek (cf. Lombardi, 1995). I assume that only Fricatives are specified for that feature, whereas Stops are not.

In the case of the WC-dialect a [STOP + s] cluster is realised as a FF cluster as in (12a).

(12a)

MG	WC	Gloss
SF	*FF*	
[psiçi]	[fsiçi]	soul
[apsixo]	[afsixo]	lifeless
[ksenos]	[xsenos]	foreigner
[afiloksenos]	[afiloxsenos]	inhospitable

The examples in (12a) show that the ranking of *SO above the constraint IDENT[strident] is crucial for the dialect (Table 12b). This ranking excludes a SF cluster (candidate -a) and results in a FF cluster as the optimal output (candidate-c). The candidate (b), containing an unmarked FS cluster, looses because of the fact that the [+strident] feature which is associated with the segment [s] in the input, is not present in either segments of the output. The Fricative [x] is a [-strident] segment, whereas [t] is not specified for that feature at all. In other words, there is no correspondent of [s] in candidate (b). The candidate (c) satisfies the higher ranked constraint *SO and it is the optimal output because of the presence of a [+strident] segment in the output.

(12b)

INPUT: SF [ks]	OCP [-cont]	*SO	IDENT (strident)	IDENT (F manner)	OCP [+cont]
a. [ks]	√	*	√	√	√
b. [xt]	√	√	*	**	√
☞ c. [xs]	√	√	√	*	*

The last example shows that a SF cluster of MG is realised also as a SF cluster in the WC-dialect, in the case of a [p + j], as in (13a), regardless of the fact that this SF cluster violates the *SO constraint.

(13a) Examples:

MG	WC
SF	*SF*
[pjano]	[pçano], *[fçano]

I assume that in this case is active a correspondence constraint that demands IDENTITY of *place / manner* of articulation among the Input labial segment [p] and the corresponding Output segment.

The IDENT[p] constraint can be used in the above data of (12a), instead of the constraint IDENT(F manner). e.g. The output [fsiçi] surfaces due to the higher ranking of *SO and the lower ranking of IDENT[p]).

(12a)   [psiçi] < [fsiçi]   (soul):

　　　　*SO > IDENT(strident) > IDENT[p] > OCP[+cont]

The IDENT[p] constraint dominates the *SO constraint (Table 13b) and yields the candidate (d) as the optimal output. The candidate (c) satisfies the identity of place of Articulation (f: [+labial]), but violates the manner of articulation, being a [+continuant].

(13b)

INPUT: SF [pj]	OCP [-cont]	AGREE [voice]	IDENT [p]	*SO	OCP [+cont]
a. [pj]	√	*	√	*	√
b. [fj]	√	*	*	√	*
c. [fç]	√	√	*	√	*
☞ d. [pç]	√	√	√	*	√

6. Conclusion

In conclusion, the Dialect of West Crete exemplifies a grammar of Type 2, in which FS as unmarked clusters and FF as marked clusters are allowed to surface, with respect to the obstruent cluster typology proposed by Morelli (1999) (contrary to the Modern Greek, which is a language type 1, cf. Morelli, 1999). The data provides also crucial evidence for the activity of the constraint *SO and the shape of the clusters are regulated by a set of markedness constraints stated over the feature [continuant] which interact with Faithfulness (in this case with the IDENT (F manner) constraint). The problematic cases which deviate from the proposed constraint ranking can be treated, if we consider a reranking of the constraints.

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BLENDS IN GREEK DIALECTS: a morphosemantic analysis

Abstract

The basic aim of our paper is to focus on the morphosemantic status of approximately eighty Greek dialectal blends. The paper is organized in three units: in the first we give an outlook of the basic theoretical references for blending, in the second we present the lexical categories which are involved in the formation of Greek blends, and in the third we attempt their morphological analysis and semantic interpretation.

1. Introduction

With the exception of some descriptive articles, restricted in presenting catalogues of Greek dialectal blends and an article of Arvaniti (1998) on the phonological status of a series of blends used in recent Greek jokes, no other linguistic work is known to have shown interest in Greek blending, and particularly in examining their morphosemantic behavior. Actually, Standard Greek doesn't seem to offer for such a word formation process, while Greek dialects seem to be rich in blends.

The source of our data includes written as well as living speech mainly from Samos, Crete, Cyclades, Cyprus and Messinia.

2. References

Blends, also called portmanteau words, are formed by means of fusing two words into one new word, where portions of the base words are often subtracted. For example, the English blend *motel* has been formed by combining *motor* and *hotel* and subtracting the string <tor.ho> (Bat El:1996).

Scalise (1984) and Spencer (1991) mention blends in a footnote, along with acronyms and clipping as not 'of any importance to morphological theory' or as a 'minor word formation process'. Two more linguists, Bauer (1983) and Berman (1989), are often reluctant to conclude that blends have a grammar, nevertheless they specify some degree of restriction.

Bauer (1983) presents four kinds of English blends: 'in most cases the new word is created from parts of two other words, with no apparent principles guiding the way in which the two original words are mutilated' and 'the coiner is apparently free to take as much or as little from either base as is felt to be necessary or desirable' (a). However, in some cases 'the rules for blending are more obvious', since 'the two words are simply merged where they overlap, so that no information is lost, but repetition of letter combinations is avoided' (b). A third kind of blend, is the type where 'the new lexeme looks as though it is or might be analyzable in terms of other word-formation processes, in particular as neo-classical compound' (c). Finally, under blends there are words whose

'precise status in the taxonomy is difficult to discern', since 'they keep one of the two bases intact'.

(1) a. flimsy   + miserable → mimsy
       parachute   + balloon   → paraloon

    b. slang   + language   → slanguage
       guess   + estimate   → guestimate

    c. architectural + ecology → arcology
       automobile   + suicide → autosuicide

    d. car   + barbecue   → carbecue
       boat   + hotel   → boatel

Berman's study of Hebrew blends (1989), based on the ability of speakers in coining and selecting new terms, concludes that Hebrew blending is a productive device of word-formation but not a systematic one, since Hebrew does not as yet possess structure-dependent mechanisms or sets of rules for blend-formation, of the kind which govern and constrain the construction of new words and of new compounds. She notes, however, that there may be quite general agreement as to which forms are more or less acceptable -hence more or less likely to be incorporated in the conventional lexicon.

Unlike the studies mentioned above, Kubozono's (1990) analysis of blending in English and Japanese strongly suggests that blending is a part of the grammar: blending refers to grammatical structures and constraints, it does not have any characteristics which are not found in natural language and blends can be analyzed only within a constraint-based framework such as Optimality Theory, which allows constraints to be violated.

Bat El (1996) provides further support for Kubozono's view. On the basis of the principles of Optimality Theory and Correspondence Theory she suggests that Hebrew blending is governed by hierarchically ordered well-formedness constraints, all phonological in nature, such as phonological entities, segmental and prosodic. Furthermore, she discusses the non-prosodic morphological aspects of Hebrew blends: the elements in the base of the blend are not restricted to particular lexical categories, the notion of head is not relevant for either the base of the blend or the total blend and the order of the elements in the base is not given by an independent principle.

Finally, Arvaniti (1998) examines the phonological processes that give a series of semantically surreal blends used in recent Greek jokes. Following the principles of Optimality Theory, she notices that they are based on hierarchically ranked well-formedness constraints and suggests that alignment procedures show evidence for foot structure in Greek.

(2) καρχαρίας + καναρίνι   → καρχαρίνι
    [karxarías]   [kanaríni]   [karxaríni]
    shark   canary

    αετός   + τοστ   → αετόστ
    [aetós]   [tóst]   [aetóst]
    eagle   tost

3. Lexical Categories

Blends are generally classified as nouns, verbs, adjectives and pronouns. They are made up of constituents, each belonging to the category of noun, verb, adjective or pronoun. In the following list, there are representative examples of the most frequent blend types. Nouns are given by convention in nominative singular, adjectives in nominative singular of the masculine, and verb forms are cited in the first person singular of the present tense:

(3) a. NOUNS

N + N

γούβα	+	πάτος	→	γούπατο	Messinia/Samos
[γúva]		[pátos]		[γúpato]	
hollow		bottom		hollow in a rock	

κλάρα	+	φούντα	→	κλαφούντα	Samos
[klára]		[fúda]		[klafúda]	
brunch		tuft		tuft with brunch	

παλτό	+	μαντό	→	παντό	Samos
[paltó]		[madó]		[padó]	
overcoat		coat		kind of light coat	

παράδεισος	+	κόλαση	→	παρακόλαση	Samos
[paráðisos]		[kólasi]		[parakólasi]	
paradise		hell		in between paradise and hell	

A + N

λιανός	+	λούρα	→	λιανούρα	Samos
[ʎanós]		[lúra]		[ʎanúra]	
thin		rod		thin rod	

b. VERBS

V + V

χαράζω	+	ανοίω	→	χαρανοίω	Rhodes
[xarázo]		[anío]		[xaraío]	
engrave		open		open by engraving	

κοροϊδεύω	+	γελάω	→	κορογελάω	Messinia
[korojðévo]		[jeláo]		[korojeláo]	
mock		laugh		mock and laugh	

πετυχαίνω	+	λαχαίνω	→	πετυλαχαίνω	Crete
[petiçéno]		[laçéno]		[petilaçéno]	
achieve		meet		meet with	

N + V

χαντάκι	+	κόβω	→	χαντακόβω	Rhodes
[xadáci]		[kóvo]		[xadakóvo]	
ditch		cut		cut a ditch	

c. ADJECTIVES
   A + A

ψιλός	+	χοντρός	→	ψιντρός	Cyprus
[psilós]		[xodrós]		[psidrós]	
tall		fat		tall and fat	

d. PRONOUNS
   P + P

| ποιού | + | τίνος | → | πίνος | Kefallonia |
| [pçú] | | [tínos] | | [pínos] | |

4. Morphosemantic analysis and categorization

According to Bauer (1983) there appears to be a central core of strongly morphological processes, made up of prefixation, suffixation, backformation and neo-classic compounding. Outside that central core, clipping, blending and forming acronyms appear as processes that are much less morphological. Blending is not well-defined and tends to shade off into compounding, affixation, clipping and forming acronyms. Nevertheless, it is a very productive source of words in both literary and scientific contexts.

Blending is usually treated as a process on the boundaries of morphology and phonology (a case of phonology-morphology interface) lying between compounding and acronyms. According to our corpus, the Greek dialectal blends could be categorized under the following four groups on the basis of morphosemantic criteria: compound-like blends, false-blends, infixed blends and acro-blends:

(4) The Morphological Continuum

COMPOUNDS		BLENDS				ACRONYMS
compounds	clipped compounds	compound-like blends	false-blends	infixed blends	acro-blends	

4.1. Compounding

Compounding in Greek is traditionally defined as an association of two or more stems, which always occur as one unit. According to Ralli (1992), Greek compounds are generated by a general context-free rewriting rule of the following type: X → Y Z (specific values for X, Y and Z may range among the categories of 'Stem' and 'Word' depending on the type of the compound). According to the different combination possibilities between a 'Stem' and a 'Word', the general rule pattern for Greek compounds could be formulated as follows (cf. Ralli 1992, 1999, Nespor & Ralli 1996):

(5) a. Stem → Stem Stem

αγρι-ο-περίστερ(ο)	<	άγρι(ος)	περιστέρ(ι)	Standard Greek
[ayrioperístero]		[áyrios]	[peristéri]	
wild pigeon		wild	pigeon	

b. Word → Stem Word

τυρ-ο-σαλάτα	<	τυρ(ί)	σαλάτα	Standard Greek
[tirosaláta]		[tirí]	[saláta]	
cheese salad		cheese	salad	

c. Word → Word Word

μαύρη λίστα	<	μαύρη	λίστα	Standard Greek
[mávri lísta]		[mávri]	[lísta]	
black list		black	list	

The transitional area between compounds and blends is occupied by a particular case of compounding, called clipping compounding, which refers to shortened compounds by means of truncation of some segment (cf. Aronoff 1976). The discriminating feature of the words in this category is the existence of the linking vowel -o- between the two constituents, a major characteristic feature of Greek compounding (cf. Ralli 1992):

(6)
αλουπ-ο-γανιάζω	<	αλουπ-ο-παγανιάζω	<	αλουπού	παγανιάζω	Samos
[alupoɣaɲázo]		[alupopaɣaɲázo]		[alupú]	[paɣaɲázo]	
chase a fox		chase a fox		fox	chase	

τσακμ-ό-πετρα	<	τσακμακ-ό-πετρα	<	τσακμάκι	πέτρα	Samos
[tsakmópetra]		[tsakmakópetra]		[tsakmáci]	[pétra]	
enlighter		enlighter		lighter	stone	

4.2. Acronyms

On the other end of the morphological continuum, Greek acronyms are formed on a pattern common to other languages: the first letters or syllables of a series of words are combined in order to name organizations, services, political parties etc. The basic similarity between acronyms and blends is that they are both made up of parts of other words. However, there are three points in which they are differentiated: 1) The constituents of the acronyms may exceed the number of two, while in blends the participating constituents are restricted to two, 2) The combining parts of words are usually shorter in acronyms and 3) Blends have a more distinct, analyzable and morphosemantically transparent structure:

(7)
ΠΑ	νελλήνιο		PA	nelínio		Universal	Standard Greek
ΣΟ	σιαλιστικό		SO	sialistikó		Sosialistic	
Κ	ίνημα		K	ínima		Party	

4.3. Blends

On the blending area of the morphological continuum, there is a category of words which shares common characteristics with compounds but should be treated as a borderline case between compounding and blending and should be considered as a first stage process of blending, under the proposed term **compound-like blends**.

This type of words seems to follow Ralli's general rules of compounding, which adjusted to the case, could be formulated into the following three rules:

(8) a. Stem → Stem Syllable + Stem

γούπατ	ο	<	γού	β	α	+	πάτ	ος	Messinia/Samos
γúpat	ο		γú	v	a		pát	os	
hollow in a rock			hollow				bottom		

b. Word → Stem Syllable + Word

κλαφούντ	α		<	κλά	ρ	α	+	φούντ	α		Samos
klafúd	a			klá	r	a		fúd	a		
tuft with brunch				tuft				brunch			

c. Stem → Stem + Stem Syllable

γλουκάχαν	α		<	γλουκ	ός		+	λ	άχαν	α		Asia Minor
γlukáxan	a			γluk	ós			l	áxan	a		
sweet cabbages				sweet				cabbages				

The proposed term 'Stem Syllable' indicates the shortened stem of the first or the second constituent, which usually coincides with its first syllable (e.g. γύν- > γύ-, klár- > klá- etc.) and its final form is dominated by phonological and mainly phonotactic constraints (e.g. klar- > *klfúda etc.). In most cases, the shortening of a stem involves the apocope of the first or the last phoneme, depending on its position, righthand or lefthand. However, although they share significant common elements with compounds, there is a strong argument that these words differ from compounds, since no linking vowel is involved (cf. 6)[1].

The following category of blends could be sited on the further side of compounds. Morphologically, it is considered a classic case of blending, also found in other languages, such as English and Hebrew: a consonantal or vocalic sound of one of the constituents is added to or substitutes a sound of the other constituent. Nevertheless, there seems to be a significant semantic difference in Greek blends: their referent is not 'something' between the referents of the two constituents but one of the constituents functions as a folk etymology marker of the other. The influence of the folk etymology marker may be either external (a) or internal (b). We propose for these blends the term **false-blends**, since they satisfy only the morphological criterion for blending and not the semantic one.

(10) a.

καστρίτ	ης		<	κ	άστρο		+	αστρίτ	ης		Samos
kastrít	is			k	ástro			astrít	is		
snake				castle				snake			

λαχταρίδ	α		<	λαχτάρ	α		+	νυχτερ	ίδ	α		Crete
laxtaríð	α			laxtár	α			nixter	íð	a		
bat				fright				bat				

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[1] Some compound-like blends can also be found in Standard Greek:

(9)
ταράζω	+	κουνώ	→	ταρακουνώ
[tarázo]		[kunó]		[tarakunó]
to disturb		to shake		to disturb by shaking

θρύλος	+	λέων	→	θρυλέων
[θrílos]		[léon]		[θriléon]
legend		lion		the mascot of a football team

b.

Αἴσωφ	ος	<	Αἴσω	π	ος	+	σο	φ	ός
ésop	os		éso	p	os		so	f	ós
Aesopus			Aesopus				wise		

Macedonia

Another case of blending, which is not frequent in Greek dialects, involves the infixation of a syllable or a shortened stem of one of the constituents into the stem of the other. For this type of blends, we propose the term **infixed blends**:

(11)

τσακλακίδ	ια	<	τσα	κίδ	ια	+	κλα	κέτ	ες
tsaklakíð	ja		tsa	kíð	ja		kla	két	es
dancing devices			broken items				castanets		

Samos

The last category of the blending area seems to be very close to acronyms and is frequent not only in Greek dialects but also in English and Hebrew as well: the first syllable/s of the first element is/are combined with the last syllable/s of the second element. Like acronyms, they are combinations of syllables, but not the first of each word. Due to their similarity to them, we propose the term **acro-blends**:

(12)

πα	ντό	<	πα	λτό	+	μα	ντό
pa	dó		pa	ltó		ma	dó
light coat			overcoat			coat	

Samos

αντά	λαγμός	<	αντά	ρα	+	αλα	λαγμός
ada	laymós		adá	ra		ala	laymós
storm-like shout			storm			shout of joy	

Myconos

So far, the present study of Greek blends has proved that they constitute morphological constructions. There are four arguments supporting the outcome: 1) Most of them have a degree of analyzability and morphosemantic transparency, 2) Like Greek compounds, they are usually right-headed (cf. Ralli 1992), 3) The deverbal blends have a verb as a head and an internally satisfied argument of the verb by the non-head (cf. Ralli 1992, Di Sciullo & Ralli 1994), e.g. an object argument, which semantically corresponds to a theme (a), and 4) Some of them can be productive (b):

(13) a.

χαντακόβω	<	χαντάκι	+	κόβω	Rhodes
[xadakóvo]		[xadáci]		[kóvo]	
cut a ditch		ditch		cut	

φαηρεύκω	<	φαητό	+	μαηρεύκω	Pontos
[fairéfko]		[faitó]		[mairéfko]	
cook food		food		cook	

b.

ζαβώνω	+	βλακώνω	→	ζαβλακώνω	+	επιθ. -μα	>	ζαβλάκωμα
[zavóno]		[vlakóno]		[zavlakóno]		suff. -ma		[zavlákoma]
render sb. an idiot		render sb. a fool		make sb. fool and idiot				the state of being like that

σαχλάρω + καλαμπουρίζω → σαχλαμπουρίζω + επιθ. -μα > σαχλαμπούρισμα
[saxláro] [kalaburízo] [saxlaburízo] suff. -ma [saxlabúrizma]
to talk to make to make the act of
nonsense jokes nonsense jokes 'saxlaburízo'

In terms of the morphological interpretation of the formation of Greek blends, we suggest that compound-like blends and acro-blends could be possibly explained by means of either a truncation of segment (cf. Aronoff 1976) or a shortening of one or both of the stems with absence of a linking vowel. Concerning false-blends, they could be explained by means of either an extension of a stem or reanalysis due to a folk etymology process.

Despite the morphological status of Greek blends, we shouldn't at all ignore the involvement of phonology for their formation: morphology interferes with their internal morphematic structure, whereas phonology interferes with the phonological constraints that are taken into account for their formation. Compound-like blends and false-blends seem to be closer to morphological constructions than infixed blends and acro-blends, where phonology seems to be of a higher priority. As a result, the more a blend is far from compounding, the more phonology interferes with its formation and morphosemantic transparency is reduced. Correspondingly, the more a blend is near compounding, the more phonology does not interfere with its formation and morphosemantic transparency is increased.

5. Semantic interpretation of the blends
5.1. Semantic relation of the elements

In order to examine the meaning of the outcome, one has to look at the semantic relations between the source words, as well as the strength of the relationship between them. Compositional analysis of lexical meaning has been proposed to elucidate semantic relations among lexical items and constraints on possible interactions of the constituents of conceptually complex words.

In these terms one can identify several types of semantic relationship between the two constituents: absolute synonyms (a), near synonyms graded in terms of their contiguity in meaning, to the mere similarity of being in the same broader semantic field (b), words that share some common component of meaning and their overlapping area is not extended (c), words not semantically related (d) and antonyms (e):

(14) a. φρίκη + τρόμος → φρίμος Samos
[fríci] [trómos] [frímos]
horror terror more than horror

διάολος + σατανάς → διάτανος Crete
[ðjáolos] [satanás] [ðjátanos]
devil devil curse used to avoid
either term

κατσίκα + γίδα → κατσγίδα Samos
[katsíka] [jíða] [katsjíða]
goat aged goat ugly goat

χαρά + καλαμπούρι → χαραμπούρι Samos
[xará] [kalabúri] [xarabúri]
joy fun joy and fun

b. αντάρα   + αλαλαγμός   → ανταλαγμός   Mykonos
    [adára]   [alalaymós]   [adalaymós]
    storm   shout of joy   storm-like joy

    παλτό   + μαντό   → παντό   Samos
    [paltó]   [madó]   [padó]
    overcoat   coat   kind of light coat

    ξίδι   + λαδιά   → τζιλαδιά   Samos
    [ksíði]   [laðjá]   [tzilaðjá]
    vinegar   oil spot   a mixture of oil
                                      and vinegar

    γαρμπής   + μπουνάτσα   → γαρμπνάτσα   Samos
    [γarbís]   [bunátsa]   [γarbnátsa]
    SW wind   stillness   a very calm
                                      SW wind

c. συντρίβω   + βουλιάζω   → συντριβουλιάζω   Messinia
    [sidrívo]   [vuʎázo]   [sidrivuʎázo]
    to crash   to sink   to crash and destroy

    βρουχώμαι   + ροχαλίζω   → βρουχαλίζω   Crete
    [vruxóme]   [roxalizo]   [vruxalízo]
    to growl   to snore   to snore growling

    σπηλιά   + λιθάρι   → σπληθάρι   Messinia
    [spiʎá]   [liθári]   [spliθári]
    cave   stone   a cave-like rock

d. εμπόδιο   + έργο   → έμπεργο   Pontos
    [ebóðio]   [érγo]   [éberγo]
    obstacle   deed   a deed
                                      full of obstacles

    ταράζω   + τζουλάω   → ταρατζουλάω   Messinia
    [tarázo]   [tzouláo]   [taratzouláo]
    to disturb   to squeeze   to disturb and squeeze

e. ψιλός   + χοντρός   → ψιντρός   Cyprus
    [psilós]   [xodrós]   [psidrós]
    slender   fat   slender and fat

    πιθώνω   + σηκώνω   → πιθωσηκώνω   Crete
    [piθóno]   [sikóno]   [piθosikóno]
    to place   to lift up   to place sth down
                                      and then to lift it up

5.2. Meaning of the blends

In all cases the meaning of a blend is different from that of each of the elements. Specifically, it can be: a near synonym, to both or one of the elements, being different due to some supplementary semantic component which in some cases may trigger for the

speakers certain associations, or have a strong carry-over from being often used (a), a specialization of the meaning of the elements (b), a contradictory meaning, when the elements are opposites (c), a novel, unknown meaning, producing an effect of novelty, usually filling in a gap in the vocabulary (d), or a redundant meaning (e), when there is really no semantic information added, serving, perhaps, to emphasize some semantic component (cf. Nida 1975, Fass 1993):

(15) a. σφαλίζω   +   μανταλώνω   →   σφανταλώνω   Kefallonia
           [sfalízo]   [madalóno]   [sfadalóno]
           to secure   to close   to close and secure

           ζουπάω   +   πλακιάζω   →   ζουπακιάζω   Messinia
           [zupáo]   [placázo]   [zupacázo]
           to squeeze   to fall on sth   to squeeze sth by falling on it

      b. κλάρα   +   φούντα   →   κλαφούντα   Samos
           [klára]   [fúda]   [klafúda]
           branch   tuft   a branch with a tuft

           γούβα   +   πάτος   →   γούπατο   Messinia/
           [γúva]   [pátos]   [γúpato]   Samos
           hollow   bottom   a hollow with a bottom

      c. κνάστος   +   άουρος   →   κνάουρος   Pontos
           [knástos]   [áuros]   [knáuros]
           ripe or mature   unripe or green   ripe but also green

           ανέφορον   +   ομάλιν   →   ανεφομάλιν   Pontos
           [anéforon]   [omálin]   [anefomálin]
           ascent   even   an even ascent

      d. μουκώμαι   +   γκαρίζω   →   μουγκαρίζω   Kythira
           [mukóme]   [garízo]   [mugarízo]
           to bellow   cry of   to bellow like a donkey
                                  a donkey

           παλτό   +   μαντό   →   παντό   Samos
           [paltó]   [madó]   [padó]
           overcoat   coat   a garment that is a combination
                                                       of a coat and an overcoat

      e. φρίκη   +   τρόμος   →   φρίμος   Samos
           [fríci]   [trómos]   [frimos]
           horror   terror   more than horror

           κατσίκα   +   γίδα   →   κατσγίδα   Samos
           [katsíka]   [jíða]   [katsjíða]
           goat   aged goat   ugly goat

5.3. Contribution of each constituent

Another aspect of the semantic analysis of blends is how much each of the elements contributes to a novel or specialized meaning expressed by the word constructed. In compounds the portion of morphemes retained from the elements is normally adequate to convey the meaning necessary for the interpretation of the new word. The construction of the meaning of a blend requires a mental process similar to that of compounding. The difference is that in blends the portion "saved" from each of the base word varies a great deal. Sometimes the discarded part of a base word is so big, that, the associations required for the interpretation, are not readily provoked (Warren 1990). Furthermore, as is also the case with compounds, the way the new word is interpreted is closely related with the extra-linguistic knowledge that the speaker and the receiver share.

Regarding the way the recoverability functions in Greek blends, Arvanity (1998) says that it is not clear and she figures that two parameters are involved: 1) The way words are perceived in speech, that is the determining of their identity (and this concerns mainly the first constituent), and 2) The syllable templates which together with the stress allow the identification of the second element. However, the new meaning is predictable due to the added content morpheme and provided there exists the particular extralinguistic knowledge required.

The examination of the blends has showed that the amount of notion conveyed by the constituents is analogous to the length of the morphemic body saved from the base words:

- In compound-like blends, the not-shortened constituent maintains its total meaning, while the shortened constituent does not really offer much information, that is the second constituent cooperates with more semantic components to the interpretation of the blend (a),
- In acro-blends, where both of the base words are presented in a shortened form, the portion of semantic content offered by the two constituents is almost the same, and neither of them has a crucial role in the meaning of the blend (b)
- In false-blends, the semantic head maintains its total meaning, while the other constituent functions as a folk etymology marker of the semantic head (c):

(16) a. χαράζω + ανοίω → χαρανοίω   Rhodes
[xarázo]   [anío]   [xaranío]
engrave   open   open by engraving

    χαρά + καλαμπούρι → Χαραμπούρι   Samos
[xará]   [kalabúri]   [xarabúri]
joy   fun   joy and fun

    b. παλτό + μαντό → παντό   Samos
[paltó]   [madó]   [padó]
overcoat   coat   kind of light coat

    φρίκη + τρόμος → φρίμος   Samos
[fríci]   [trómos]   [frímos]
horror   terror   more than horror

c. λαχτάρα   +   νυχτερίδα   →   λαχταρίδα   Crete
[laxtára]   .   [nixteríδa]   [laxtaríδa]
fright   bat   bat

5.4. Order of the elements

For Kubozono (1990) blends preserve the attributes of the compounds, that is the right end is the thematic base. Bat-El (1996) disagrees and says that one of the reasons blending differs from other types of word formation is the absence of constraints in the order of the base elements, since the order is indirectly determined by the interaction of independently motivated constraints, and none of the constraints is related with the semantic content of the elements.

The examination of the blends of our corpus has led to some suggestions about the order of the elements. It seems that there exists a mechanism for handling semantically illformed blends by means of certain constraints which function only in certain conditions to block the formation of meaningless blends. They tell us the way some pairs of lexemes can combine meaningfully so that the interpretation of the blend is semantically acceptable:

- In blends with constituents that are synonyms, the "uniqueness" constraint, as Bat El (1996:288) names it, helps to avoid semantically related homonyms. In such cases, the reverse order would give blends, which are not phonologically and semantically distinct from one of the base words (a)
- In acro-blends, the second constituent should come from the base word with more syllables, so that the first base word can be different from the blends (b) or the word which seems semantically more important or marked, becomes the first element of the blend (c)
- The elements of some blends are put in order following protoypes like positive-negative, sequence of actions, known patterns etc. (d):

(17) a. παλτό   +   μαντό   →   παντό
     μαντό   +   παλτό   →   *μαλτό

   b. χαρά   +   καλαμπούρι   →   χαραμπούρι
     καλαμπούρι   +   χαρά   →   *καλαμπουρά

   c. φρίκη   +   τρόμος   →   φρίμος
     horror   terror   more than horror

   d. παράδεισος   +   κόλαση   →   παρακόλαση
     paradise   hell   in between paradise and hell

     χαράζω   +   ανοίω   →   χαρανοίω
     engrave   open   open by engraving

In cases of blends which could have very well been constructed in a reverse ordering of their constituents and still no inconsistency or nonsensical effect would be produced by the matching of their meanings, one could say that it is the knowledge of the subject that determines which combination is more likely, and the interpretation is not mainly determined by any formation rule or the kind of the input constituents. Speakers are guided by their knowledge of the referents of the base words and select the components of meaning they want to transfer.

(18) εμπόδιο	+	έργο	→	έμπεργο
έργο	+	εμπόδιο	→	*εργόδιο
κοροϊδεύω	+	γελάω	→	κορογελάω
γελάω	+	κοροϊδεύω	→	*γελαϊδεύω
ψιλός	+	χοντρός	→	ψιντρός
χοντρός	+	ψιλός	→	*χοντλός

Actually, it is essential for the interpretation of a blend that the hearer recognizes the elements of the base and that he knows their referents. It is often stated that the mapping between lexical and conceptual structures matches the relatively stable linguistic knowledge to the changeable world knowledge (Sowa 1993). There is an interaction of the two kinds of knowledge. Speakers of a language make their choice from the available options their linguistic knowledge offers for the creation of blends, knowing how these will transmit their meaning and how other people will understand it, with the help of the general, background knowledge they possess. That is why blends are readily interpretable by speakers handling the same variety, while for others, having different lexical and conceptual patterns, the interpretation is doubtful (Saeed 1997).

Up to here there have been examined only some of the modern Greek dialects, mainly from south Greece and there is more work to be done exploring the "wealth" of northern varieties. In the process of future research perhaps new findings will come up which will elucidate new aspects of the notion of blends.

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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] > [ęo] > [jo] with non-syllabic [ę] 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* [eláːia] > [eléa] 'olive', *aetós* [aːetós] > [aetós] 'eagle', *palaiós* [palaiós] > [paleós] 'ancient' into MGK *eliá* [eʎá], *aïtós* [aitós], *paliós* [paʎós] (Newton 1972: 31-32; my phonetic transcription):[1]

(1)		eléa	aetós	paléos *(sic)*
Height dissimilation		elía	aitós	palíos
Glide formation		eljá	aitós	paljós
Palatalization		eʎjá		paʎjós
Postpalatal yod deletion		eʎá		paʎós

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:

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[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 recontruction in terms of phonological processes acting on underlying forms: he ackowledges 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]

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[2] In Laconian, Heraclean, Argive, and Cretan, the process applies only to ancient hiatuses. Recent hiatuses created through the loss of /w/ remain untouched: cf. *[rʰéwonta] > Heracl. *réonta* [rʰéonta] '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. *ankotharionti* must represent [aŋkotʰarjónti] (*ankothariónti*) rather than [aŋkotʰaríonti] (*ankotharíonti*).

(3)   Cyprian *a-te-li-ja i-o-ta* (alphabetic Greek *atelíja iónta)* [atelíja iónta]
'being-N.PL tax-free-N.PL' (< *ateléa eónta* [ateléa eónta])

Boeotian *epolémion* [epolémion] '(they) were making war' (< *epolémeon*
[epolémeon])

Thessalian *genioun* [genío:n] 'breed-GEN.PL' (< *genéo:n* [genéɔ:n])

Pamphylian *adriióna* [adrijɔ̂:na] 'banqueting hall-AC' (< *andreô:na*
[andreɔ̂:na])

Laconian *hagiontai* [ha:gíɔ:ntai̯] '(they) think-SUBJ' (< *hagé:ontai*
[ha:géɔ:ntai̯]

Argive *thiiôi* [tʰijɔ:i̯] 'god-DAT' (< *theô:i* [tʰeɔ̂:i̯])

Heraclean *ankotharíonti* [aŋkotʰaríonti] '(they) shall clear out' (<
anakotharéonti [anakotʰaréonti]),   *metrió:menos* [metriɔ́:menos]
'measured' (< *metreómenos* [metreómenos]

Cretan *thiós* [tʰiós] '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* [oikía:s] '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 [ẹ] 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 Thespiai (Boeotia), cf. *[H]erakl|-os* (supposedly for
Herakléos [hɛːraklẹ́os] '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
/ɛ:/ were liable to abbreviation and synizesis: cf. *e* for *ei* in Att. *prutanéon* for *prutaneíon*
[prytanê:on] 'Prytaneum'. As for *[H]erakl|-os*, the sign |- must represent a long closed /e:/
much like in e.g. *T|-siméne:s* [te:siménɛ:s] (name), where /e:/ (|-) is the reflex of an ancient
diphthong /ei̯/ (cf. *Teisiméne:s* [tei̯siménɛ:s]). Unlike in other dialects, names in *-kléwe:s*
[kléwɛ: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:rakleîos* [hɛːraklê: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, Rohlfs 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', [miĺia] 'speech', [karðía] 'heart'. This type is found in Old Athenian, Megara, Aegina, Kimi (Euboea), Mani, Kythera, Langadia (Arcadia), Elimbos (Karpathos), Apulia, Pharasa (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 [miĺia] 'apple tree', [sutʃia] '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', [ɣréa] > [ɣría] 'old woman', [enéa] > [enía] 'nine', [paɣonía] > [paɣoɲía] 'frost', [vrɣon] > [vjíe] 'moss', [mía] > [ɲá] '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/ ([vjíe]), but not after ancient /e/ ([krío]). Therefore HD postdates palatalization and /o/-fronting.

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[3] The IPA sign [ʝ] 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	karðia
Height dissimilation	milía	kariðia		
Glide formation after /k, x, g, l, n/	miljá		miljá	
Palatalization	miʎjá		miʎjá	
Postpalatal yod deletion	miʎá		miʎá	

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' > [axlaðẹá], [karðia] '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	karðia
Height dissimilation	milía	kariðia		
Glide formation	miljá	kariðjá	miljá	karðjá
Other processes	miʎá	kariðjá	miʎá	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/ > [ǽ], in western Crete, and Ikaria /éa/ > [é] (/ía/ undergoes GF regularly) (Newton 1972: 46-52). In Pontic, /eá, iá/ > [ǽ] /ea, ia/ > [æ] and also /eó, ió/ > [ó], /eo, io/ > [ø]: e.g. [paleá] 'ancient-FEM' > [palǽ], [eneakósia] 'nine hundred-N' > [enækóʃæ], [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], [ae], [oe], [ao] are retained in most of the area including Chios, Cyprus, Elimbos (Karpathos), and north-eastern Rhodes where we find [fléva] > [fléa] 'vein', [meɣálos] > [meálos] 'big', [léɣo] > [léo] 'I say', [róɣa] > [róa] 'grape'; note also the lack of GF in [epíɣa] > [epía] 'I went', [llíɣo] > [llío] 'little', [ɣlíɣora] > [ɣlíora] 'quickly', [súða] > [súa] 'sewer'.

HD operates in Kos, Kalimnos, and Karpathos. Here we find [flía] (for [fléva]), [miálos] (for [meɣálos]), [lío] (for [léɣo]), [rúa] (for [róɣa]); cf. also [pódas] > [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	meɣálos	róɣa	súða
Voiced fricative deletion	fléa	meálos	róa	súa
HD (Kos, Kalimnos, Karpathos)	flía	miálos	rúa	
Glide formation (SW Rhodes)	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
/r/ *deletion*	méa	jéakas	óa	foá
Height dissimilation	mía	jíakas	úa	fuá

Instances like [flía], [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], **[fóʉs], 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 *palaiaí*

[paleé]) after *paliós* [paʎós] 'ancient-MASC.SG', *paliá* [paʎá] '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 antihiatic [j] which is automatically inserted between the two vowels.

(8)   a.   *ideaal* 'ideal'   [idijál]

            lineal 'linear'   [ĭinijal]

       b.   *Koreaan* 'Korean' (noun) [kɔʀiján]

            Korea   [kɔʀéja]

            theater 'theatre'   [tèjátɔʀ]

A well-known phonotactic constraint in French dictates that open /ɛ/ cannot appear before vowels (only closed /e/ occurs in this environment): *idéal* [ideál] 'ideal', *fléau* [fleó] 'calamity', *réel* [ʀeɛ́l] 'real'. But this constraint holds also before /e/ and, what is more, before high vowels: *véhément* [veemɑ̃] '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 [ę], [ǫ]. 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 [ę] and [ǫ] into the prototypical semivowels [j], [w]. The historical sequence of changes is the following:.

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[4] *Pace* Newton (1972: 31), there is no phonetic process /ii/ > [ji] either: *palioi* [paʎí] 'ancient-MASC.PL' (AGK *paleoi* [paleý]) is modeled after *paliós* [paʎós] 'ancient-MASC.SG', *paliá* [paʎá] 'ancient-FEM.SG', etc.

(9)		eortí	enéa	aetós	karðia
Synizesis (+ stress shift)		e̜ortí	ene̜á	ae̜tós	karðjá
Glide adjustment		jortí	enjá	ai̯tós	
Other processes		jortí	eɲá		karðjá

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] > [iɲá] 'nine', [arnía]> [arɲa!] 'lambs'. Otherwise, they remain distinct: [poðéa] > [puðʲá] 'apron' vs. [peðía] > [piðʲjá] 'children'. This means that *(C)eV* and *(C)iV* evolved at different paces. As indicated in (10), [e̜] turned into a 'weak' [j] only after the [j] resulting from /i/ had already become a 'strong' [j] after 'nonpalatalizing' consonants. Contact with [j] made /l, n, k, γ/ into full palatals [ʎ, ɲ, ç, ʝ]. Other consonants became palatalized: e.g. /t/ > [tʲ]. While 'weak' [j] (< /e/) was absorbed both into palatal and palatalized consonants, 'strong' [j] (< /i/) was absorbed into the palatals, but not into palatalized consonants.

(10)			enéa	arnía	poðéa	peðía
Synizesis (+ stress shift)			ene̜á	arnjá	poðe̜á	peðjá
Consonantalization, *palatalization,* *absorption*		*yod*		arɲá		peðʲjá
Glide adjustment			enjá		poðjá	
Palatalization, yod absorption			eɲá		poðʲá	
Mid vowel raising			iɲá		puðʲá	

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 [ei̯], [ou̯]. Admittedly, there is a strong tendency among languages to avoid the non-optimal diphthongs [e̜e], [o̜o], [ee̜], [oo̜].

Diphthongs with high glides ([ai̯], [au̯], [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 ([línea]) is the normal pronunciation. Glide adjustment ([línja]) is casual and heavily stigmatized. As a result, hypercorrect pronunciations and spellings are far from rare: *geráneo* [xeráneo] for *geranio* [xeránjo] 'geranium', *fóleo* [fóleo] for *folio* [fóljo] 'folio'. Indeed some hypercorrect forms have wormed their way into the Academy's dictionnary: e.g. *espúreo* [espúreo] 'spurious', beside *espurio* [espúrjo].

(11)	*línea* 'line'	*caerá* 'it'll fall'	*coartada* 'alibi'	*aoristo* 'aorist'
Hiatus	[línea]	[kaerá]	[koartáða]	[aorísto]
Synizesis	[línea]	[kaerá]	[koartáða]	[aorísto]
Glide adjustment	[línja]	[kajrá]	[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)	*alinear* 'to line'	*cae* 'it falls'	*almohada* 'pillow'	*bacalao* 'codfish'
Hiatus	[alineár]	[káe]	[almoáða]	[bakaláo]
Synizesis	[alineár]	[káe]	[almoáða]	[bakaláo]
Glide adjustment	[alinjár]	[káj]	[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)	*creo que sí* 'I think so'		*caer* 'to fall'	*ahora* 'now'
Hiatus	[kréo ke sí]		[kaér]	[aóra]
Synizesis	[kreó ke sí]		[káer]	[áora]
Glide adjustment	[krjó ke sí]		[kájr]	[áura]

Like in Greek, /ee/, /oo/, /ée/, /eé/, /óo/, /oó/ contract in informal speech: *vehemente* [beménte] 'vehement', *coordinar* [korðinár] 'to coordinate', *lee* [lée] '(he) reads' > [lé], *dehesa* [deêsa] '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 trópẹa 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 /
      [cimátẹ o nẹós orẹós voskós sti xlói̯ to mesiméri̯]
      'the young handsome shepherd is sleeping on the grass in the afternoon'
                              (Giannis Gryparis, 1871-1942)

      /ce ítan oréo to próstaɣma pu ðéxtices na ðósis/
      [c ítan orẹó to próstaɣma 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 [θẹológos] 'theologian'), then in the position adjacent to a stressed vowel ([θeótita] or [θẹótita] '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 [meɣálos], [róɣa]), 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], [nɛarós] '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	krío
Synizesis (+ stress shift)	ɣrɛ̨́a	krjó
Glide adjustment	ɣrjá	
Diaeresis	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 [r̥ká], [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
Height dissimilation		milía	kariðía		
Glide formation after /k, x, g, l, n/		miljá		miljá	
Palatalization		miʎjá		miʎjá	
Postpalatal yod deletion		miʎá		miʎá	

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 [miʎá] 'apple tree' (AGK [miléa]), [miʎá] 'speech' (AGK [omilía]) with this alternative rule ordering:

(17)		néi	miléa	milía	xoní
Height dissimilation		níi	milía		xoɲí
Dental palatalization (i.e. /l, n/)		ɲíi	miʎía	miʎía	
Glide formation (only after palatals!)		ɲjí	miʎjá	miʎjá	
Postpalatal yod deletion		ɲí	miʎá	miʎá	

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
Glide formation (+ adjustment)		miljá	kariðjá	miljá	karðjá
Palatalization (+ yod absorption)		miʎá		miʎá	
Diaeresis (+ stress retraction)			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 [miʎá], 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 fenomenon 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 îo] '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. [sutʃéa], 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. [aɣíasma] > 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 Rohlfs 1977: 64): [skiá] > Cal. [oʃʃía] 'shadow', [θimoniá] > Cal. [θimonía] 'stack', [deksiós] > Cal. [dettsío] 'right', [anepsiós] > Cal. [anettsío] 'nephew', [eliós] > Cal. [oddío] 'dormouse', [kriós] > Ap. [krío] 'ram'; cf. also [ryá] > Ap. [rúa] 'pomegranate', MedGk [tryá] > Cal., Ap. [trúa] (also [trúva], [trúɣa]) 'thread', and [dzyɣós] > Ap. [dzío] 'yoke' (Cal. [dziɣó]). 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 [ɣeneá] > 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] > [glitʃéa] '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.): [ɣeneá] > Tsakonian [jeɲía] 'race, breed' (for expected *[jeniá] or *[jeɲía]), [ɣonía] > [ɣonía] 'corner' (for expected *[ɣoɲía]) (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* [éo] (class. *ego* [ego]) > [ęó] > [jó] > [ío] rather than [éo] > [ío] > [jó].

Zakynthos [aría] 'seldom' (Andriotis 1974a: 25), [skiá] > Pont. [eʃcía] 'shadow', MedGk [tryá] > Pont. [trúya]) 'thread'. In Karpathos (Minas 1970: 29), [anepsiós] > [anipsíos] 'nephew', [iós] > [íos], [îjos] 'poison', [kriós] > [krîos] 'ram', [skiá] > [escîa] 'shadow', [yós] > [îos] 'son'. An interesting case is [poría] 'passage' > [purẹá] '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	-îa	-eá	-éa
Synizesis	-já	-îa / -já	-ẹá	-éa / -ẹá
Glide adjustment			-ẹá / -já	-eá / -ẹá / -já
Diaeresis	(+	[-éa]	prevails in Apulia, [-îa] prevails in
hypercorrection)			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 [-îa] prevailed over etymological [-iá], [-eá], [-éa]; in Apulia [-éa] tended to supplant [-eá], [-iá], [-îa]. 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]), [payonía] 'frost', and [vrýon] 'moss'.

(20)	enéa	kréos	payonía	vríon
Synizesis (+ stress shift)	enẹá	krẹó	payonjá	vrjó
Palatalization of /l, n, r, m/			payoɲjá	vrʲjó
/o/-fronting				vrʲjé
Glide adjustment	enjá	krjó		
Diaeresis (+ stress backshift)	enía	krío	payoɲía	vrʲie
Other processes				vjie

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. [fʎáris], but [flíáris] in Profilia; [meɣálos] 'big' > NE Rhod. [meálos] > [miálos] (Soroni), SW Rhod. [mjálos], but [méalos] in Laerma and [míalos] in Asklipio, Agios Isidoros, and Vati. Cf. also [θeós] 'god' > [síos] in Chios (Nenita) and [θéu̯s], exceptionally with synizesis 'on the right', in Siana, Apolakkia, and Embona.

(b) [iá] > [ía]: [ecî ðá] there' > [ciðá] > [cjá] > SW Rhod. [tʃá], but [cía] in Profilia, Istrios, Arnitha, Vati; [liváði] 'meadow' > Rhod. [liái], but [líai] in Laerma, Profilia; [liváni] 'incense' > [líani] in Laerma, Profilia; [osía ánna] 'the Blessed Anne' > Rhod. [ta sjánna] (place name), but [ta síana] in Profilia; [tiɣáni] 'frying pan' > NE Rhod. [tiáni] > SW Rhod. [tjáni], but [tíani] in Monolithos; [pliɣá] 'wound' > [plía] in Vati; cf. also It. *piatto* [pjátto] > Rhod. [pçáto], but [píato] in Profilia, AGK [ptyárion] 'shovel' > Rhod. [ftçári], but [ftíari] in Monolithos.

(c) [oá] > [úa]: [stoá] > Cyp. [stuá], but [stúa] in Chios, Kythnos, [stúa], [stúva], [stúɣa] in Pontic. Cf. also [aó] > [áo] in [laɣós] 'hare' > Rhod. [lau̯s], 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 [tíani], [míalos], [píato], etc. proves that, in spite of appearances (cf. the etyma [fotía] 'fire', [ðrosía] 'dew', [myrtéa] 'myrtle shrub', [ɣréa] 'old woman', [kréas] 'meat'), the accentuation of [fotía] (Profilia, Istrios, Monolithos, Agios Isidoros), [ðrosía] (Profilia), [mirtía] (Profilia, Istrios, Monolithos, Agios Isidoros), [ɣría] (Profilia, Istrios, Monolithos, Agios Isidoros), [krías] (Monolithos, Vati), must not be etymological, but secondary to the more widespread variants [fotçá], [mirtçá], [ɣriá], [kriás] ([ɣrʝá], [krʝás] in the city of Rhodes).

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

(21)	mirtéa	ɣréa	ti(ɣ)áni	me(ɣ)álos
Stress shift	mirteá	ɣreá		
Height dissimilation	mirtiá	ɣriá		miálos
Stress backlash	mirtía	ɣría	tíani	míalos

A different development is reconstructed for the other Rhodian varieties:

(22)	mirtéa	ɣréa	ti(ɣ)áni	me(ɣ)álos
Stress shift	mirteá	ɣreá		
Height dissimilation	mirtiá	ɣriá		miálos
Glide formation	mirtjá	ɣrʝá	tjáni	mjálos
Consonantalization	mirtçá	ɣrʝá	tçáni	

Manner dissimilation   γrjá

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 [γréa] > [γreá], and even less so for the retraction of the stress ([γriá] > [γría]). Both are ad-hoc changes and, quite unsurprisingly, the intermediate steps *[mirteá], *[mirtiá], *[γreá] are not attested. Tsopanakis tried to avoid a change [γréa] > [γría], 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] > [flęá] > [fljá] > [flĩa]) occasionally with hypercorrect regression ([meγálos] > [meálos] > [męálos] > [méalos] and [męálos] > [mjálos] > [mĩalos]) 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 [miʎá], [eʎá], SW Rhod. [miʎjá], [eʎjá], NE Rhod. [mildʒá], [eldʒá] 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' > [ppʎó] > [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' > [ppʎó] > [pçó], [istoneaftón] 'to himself' > [stoneɲɲatón], [neópandros] 'recently married' > [ɲɲópandros] contrast with those of [xréos] 'debt' > [xríos], [kréas] > [kriás] *(sic),* [andréas] 'Andrew' > [andriás] *(sic),* [méγas] 'big' > [mĩas] (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. [meγálos] > [miálos] 'big', [tiγáni] > [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 [tímɲos], cf. *mnɪá* [sc. *mia* [mɲá] 'one-FEM'] (translation mine, JMD).

Hatzidakis argues that a learned word like *tímios* is impervious to synizesis, since otherwise, it should be pronounced as [tímɲos] 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, [tímɲos] 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 *mɪálos* or *mjálos* could be interpreted as representing [mɲálos] 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' ([mîalos]).

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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INTONATION IN 'EUROPEAN GREEK'

Abstract

This study investigates the intonation of a group of Dutch near-native speakers of (Modern) Greek. Specifically, it investigates the timing of peaks in non-final or prenuclear accents in declarative intonation. Production data for the Dutch near-native speakers of Greek were obtained for both Dutch and Greek statements. These data were compared to those produced by a native Dutch and a native Greek control group. Evidence was found for bi-directional interference in four out of the five speakers: they produced peak alignment incorrectly in *both* languages. The fifth speaker produced peak alignment correctly in both the first (L1) and the second (L2) language, suggesting that she was able to keep the L1 and L2 peak alignment categories separate. It was found that this speaker had been exposed to the L2 at an earlier age, and it was hypothesized that age may be a determining factor in the ability to establish new L2 categories. The results are interpreted in terms of the Speech Learning Model (e.g. Flege, 1995) and the appropriateness of this model for prosodic aspects of L2 learning is evaluated.

1. Introduction

During the First International Conference of Modern Greek Dialects and Linguistic Theory quite a few conference participants were able to speak Greek (some even managed to present their paper in Greek!), even though Greek is not their native language. In some cases their speech may have sounded somehow *different* from that of native speakers. This difference is often referred to as 'accented speech' or 'foreign accent', and we can often perceive it even when the non-native speaker is reasonably proficient in that language. When listening to such accents it is usually possible to infer the language background of the speaker. That is, we can recognise from their accent in Greek whether they are for instance Italian or Dutch. This is because speakers of a second language (L2) often experience transfer or interference from their first language (L1), most notably at the level of the sound system (Beebe, 1987; Broselow, 1988; Scovel, 1969).

The fact that we can recognise the language background of L2 speakers implies that their speech differs in a systematic way from that of native speakers. In other words, the foreign accent of Dutch speakers is different from that spoken by, for example, Italian speakers. Therefore, one could say that people from different L1 backgrounds speak different 'dialects' of the L2. This paper investigates a European dialect of Greek, i.e. that spoken by Dutch native speakers. More specifically, it investigates whether and in which way Dutch near-native speakers of Greek differ from native speakers, in terms of their intonation.

1.1. Speech Learning Model

Adults who learn a second language often have difficulties producing segments that do not appear in or are slightly different from those in the native language. Such production difficulties have been amply documented in the literature, and have led to the development of several theoretical models which try to account for segmental aspects of L2 learning (Best, 1994; Best, McRoberts, & Sithole, 1988; Best, 1995; Flege, 1986, 1991, 1995; Iverson & Kuhl, 1995, 1996; Kuhl, 1991; Kuhl, Williams, Lacerda, Stevens, & Lindblom, 1992). The Speech Learning Model (SLM) developed by Flege (Flege, 1991, 1995) generates predictions concerning the accuracy with which highly experienced learners of various L1 backgrounds will produce L2 speech. The predictions the model makes are restricted to L2 consonants and vowels. The model is based on the assumption that many L2 production errors have a perceptual origin. It is well established that sometime during the L1 acquisition process sensitivity to non-native speech sounds decreases and perception becomes attuned to the L1. As a result of this process L2 learners will fail to recognize phonetic differences between L1 and L2 sounds and identify L2 sounds in terms of similar L1 sounds. This concept, called 'equivalence classification', was introduced by Flege (Flege, 1981, 1987a; Flege & Hillenbrand, 1984). The difficulty certain L2 sounds will pose for learners can be predicted on the basis of the perceived relation of these two sounds to L1 categories.

According to the model, the greater the perceived relation between the L1 and L2 sound – i.e. the more similar the sounds are – the more likely it is that equivalence classification will take place. As a result, the formation of a new phonetic category for the L2 sound will initially be blocked. Over time (as learners receive more L2 input) learners may gradually become able to discern phonetic differences between certain L2 sounds and their L1 counterparts. If an L2 sound is successfully recognized as different from L1 sounds, a new L2 phonetic category should develop. If, on the other hand, an L2 sound fails to be discerned from its L1 counterpart, category formation may continue to be blocked even after many years of experience with the L2. In such cases, it is hypothesized that listeners classify the L2 sound and its L1 counterpart into a single phonetic category.

Since the SLM assumes that many L2 production errors are perceptually motivated, determining the perceived relation between L1 and L2 sounds will lead to predictions about the production of L2 sounds. The SLM predicts that when a category cannot be established for an L2 sound, production of this sound will be phonetically inaccurate, resulting in accented production. Furthermore, the production of the L1 counterpart will gradually shift away from the monolingual norm, and the L1 and L2 sound will eventually come to resemble one another in production. In other words, the L2 sound and its L1 counterpart will gradually 'merge' (Flege, 1981, 1984, 1987b; Flege & Hillenbrand, 1984). If, on the other hand, the learner is able to develop a new category for an L2 sound, the learner should (in principle) be able to produce it in an accent-free manner. However, this is not always the case (as will be explained shortly).

According to the SLM, the likelihood of the learner being able to discern phonetic differences between L1 and L2 sounds – which would result in more accurate production – is related to the age when L2 learning starts. Thus, the earlier learning starts the more likely it is that differences can be discerned, and the less likely it is that L2 production is accented. However, even when a new phonetic category can be established for an L2 sound, there is no guarantee that this category is identical to a monolingual's. In order to account for this phenomenon, the model posits that both L1 and L2 categories exist in a 'common

phonological space'. In order to maintain contrast within that common space, that is contrast within and across languages, it is argued that categories might be 'deflected away' from each other (Flege, 1995: p. 242). As a result, the L2 sound might not be produced in the same way as it is produced by native speakers, even though a new category for the L2 sound has been established. Incidentally, by positing a common phonological space the SLM can also provide an elegant explanation for the finding that experienced L2 learners may merge the properties of similar L1 and L2 sounds. The assumption that the L1 and L2 phonetic systems of adult bilinguals are not (fully) isolated implies that they can mutually influence each other. So, not only can the L1 have an influence on the production of an L2, the L2 can just as well have an effect on the production of the L1 (Flege, Frieda, & Nozawa, 1997).

However, the evidence for bi-directional interference is rather limited. Most evidence for bi-directional interference comes from studies on adult bilinguals' voice onset time (Caramazza, Yeni-Komshian, Zurif, & Carbone, 1973; Flege, 1987b; Williams, 1980) or from non-instrumental foreign accent judgements (Flege et al., 1997; Piske & MacKay, 1999). Furthermore, in a recent replication of Flege *et al's* study, evidence was only found for influence of the L1 on the L2, but not vice versa (Guion, Flege, & Loftin, 2000). All in all, the evidence is far from being established. Further instrumental studies into the nature of interference are needed as little is known about cross-language interference in segmental - let alone nonsegmental - dimensions. This study offers a first step towards filling this gap, by investigating bi-directional interference in the intonation of Dutch near-native speakers of (Modern) Greek.

1.2. Cross-linguistic differences in Dutch and Greek intonation

One intonation pattern which shows similarities between Greek and Dutch is the non-final or prenuclear accent in declarative intonation (Mennen, 1999). In both languages this intonation pattern is characterized by a rise that begins at the onset of the accented syllable and rises steeply until somewhere near the end of the accented syllable during which F0 starts falling again. However, the patterns are not identical and there are two crucial cross-linguistic differences between the two. Firstly, there is a difference in the exact timing (alignment) of the peak. In Greek prenuclear accents the peak is consistently aligned after the onset of the first postaccentual vowel (Arvaniti, Ladd, & Mennen, 1998). Typically, in words with antepenultimate stress, the peak occurs around 10 to 20 ms after the beginning of the postaccentual vowel. The rise in Dutch prenuclear accents, by comparison, has already reached its peak somewhere within the accented syllable, i.e. the peak is earlier in Dutch than in Greek prenuclear accents (Mennen, 1999).

A second difference is related to the phonological structure of the two languages. Greek has a simple five vowel system consisting of /i, e, a, o, u/, all of which are of equal phonological weight (Joseph & Philippaki-Warburton, 1987; Mirambel, 1959). Dutch, on the other hand, has series of long (tense) and short (lax) vowels. Crucially, this difference in phonological vowel length of accented syllables has an effect on the timing of the peak in prenuclear accents (Ladd, Mennen, & Schepman, 2000; Mennen, 1999). Specifically, it appears that in syllables with phonologically long vowels the peaks are aligned earlier than in phonologically short ones. Typically, the peak occurs during the *accented vowel* in the
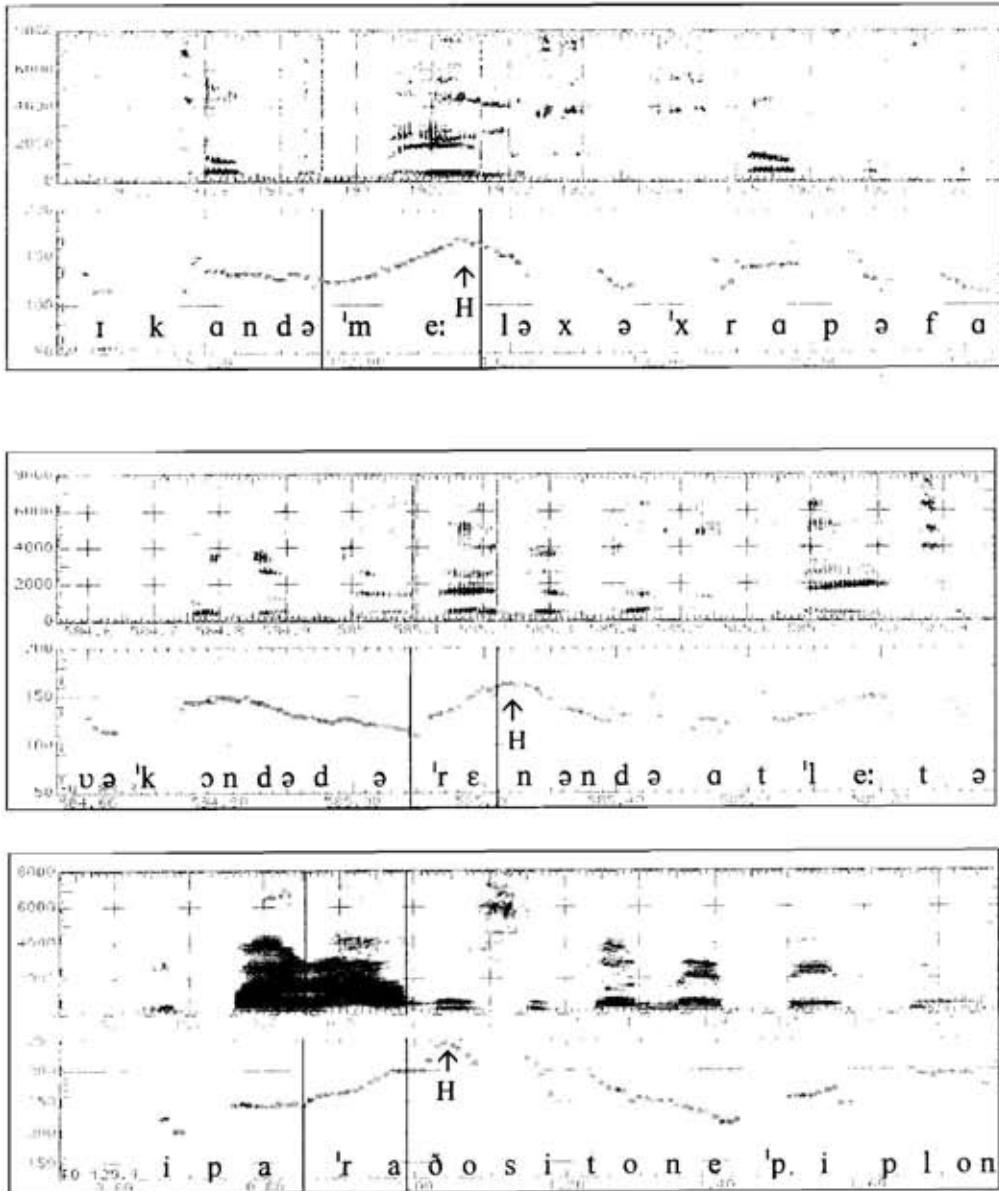
Figure 1. Differences in peak alignment between a Dutch sentence with a phonologically long vowel in the accented syllable of the test word (top panel); a Dutch sentence with a phonologically short vowel (middle panel); and a Greek sentence (bottom panel). Note that the peak (H) is aligned earlier in the top panel, later in the middle panel, and latest in the bottom panel. Vertical lines demarcate the beginning and end of the accented syllable of the test word.

former but during the *following consonant* in the latter. The similarities and differences between Greek and Dutch prenuclear accents are exemplified in Figure 1.

1.3. Predictions

As the SLM is concerned with segmental L2 acquisition it doesn't as such allow us to make specific predictions about prosodic acquisition. But if we assume that the SLM can account for prosodic data, the degree of similarity between the L1 and L2 intonation patterns would lead to some general expectations. Dutch and Greek prenuclear accents have a similar intonation pattern, characterised by a rise which starts at the beginning of the accented syllable and reaches its peak near the end of the accented syllable. However, as discussed before, they differ in the timing of the peak. As a result, category formation for the L2 pattern should be blocked, and Dutch learners of Greek should classify the L2 pattern according to their L1 category. This would lead to inaccurate production of the L2 pattern, specifically with respect to the timing of the peak. The SLM holds that inaccurate production would persist even after long exposure to the L2. It is further predicted that, over time, the L2 learners will merge the properties of the L1 and L2 patterns. That is, Dutch learners of Greek would develop a 'merged' system, intermediate between the L1 and the L2 norm. Dutch learners would therefore align the peak in Greek accents somewhere between the Dutch and the Greek norm, i.e. later than in Dutch and earlier than in Greek.

As the SLM holds that interference is bi-directional, it is expected that not only will Dutch learners of Greek experience an influence from Dutch in their production of Greek peak alignment, at the same time their Dutch peak alignment should be affected as well.

2. Experiment 1

This experiment tested whether Dutch speakers of Greek were able to produce peak timing in their L2 (Greek) accurately.

2.1. Materials

The materials for Greek were a subset of those used by Arvaniti et al. (1998; Experiment 2): 20 declarative sentences with one of the vowels /i/, /e/, /a/, /o/, and /u/ in the accented syllable of the test word in roughly equal distribution. The materials for Dutch were 20 Dutch declarative sentences with one of the short vowels /ɪ/, /ɛ/, /ɑ/, /ɔ/, and /ʏ/ and 20 with one of the long vowels /i/, /e/, /a/, /o/, and /y/ in the accented syllable of the test word. Each test word had lexical stress on the antepenultimate syllable and the stressed syllable was followed by two to five unaccented syllables. This was done in order to avoid effects of prosodic context on the alignment of the peak, such as those reported in the literature (Arvaniti et al., 1998; Prieto, Van Santen, & Hirschberg, 1995; Silverman & Pierrehumbert, 1990). For ease of measurement only sonorants, or in a few cases voiced obstruents, were used in the relevant syllables of the test words. In the majority of cases the accented vowel was preceded and followed by a singleton consonant. All materials were designed with the aim to elicit a prenuclear accent on the test word, followed by either another prenuclear accent or a nuclear accent on the following word. Examples of the test word are given in Table 1.

Table 1. *Sample test items for (a) Dutch materials with one of the long vowels, (b) one of the short vowels in the accented syllable of the test word, and (c) Greek materials. The test words are underlined.*

(a) Dutch - Long	[ɪk kɑn də 'meːləxə 'xrɑpə fɑn sɛt 'xɑikəmaː 'nit 'lɑŋər 'aːnhorə]
	I can no longer stand Seth Gaaikema's <u>corny</u> jokes.
(b) Dutch - Short	[ʋə 'kɔndə də 'rɛnəndə ɑt'leːtə mɛt xeːm 'moːxələkhɛit 'bɛihɔudə]
	There was no way we could keep up with the <u>running</u> athletes.
(c) Greek	[i pa'raðosi ton e'piplon θa 'jini ti 'driti to pro'i]
	The <u>delivery</u> of the furniture will take place on Tuesday morning.

2.2. Subjects

Three groups of five speakers participated in this experiment: a native Dutch control group (D), a native Greek control group (G), and a group of non-native (Dutch) speakers of Greek (BG). Group D consisted of three females (D1, D4, and D5) and two males (D2, and D3). Group G also consisted of three females (G3, G4, and G5) and two males (G1 and G2). The speakers of Group BG were two females (BG2 and BG4) and three males (BG1, BG3, and BG5). It was originally intended to select only monolingual speakers for the native Dutch and Greek control groups. However, this proved to be an unrealistic criterion for speaker selection, especially among educated speakers. Therefore, speakers were selected who were not highly proficient in any other language than their L1 and English, in which they were all reasonably competent. For the non-native group (BG) the same criterion was applied with the exception that all speakers were also highly proficient in Greek. All non-native speakers had learned Greek as an L2 in adulthood, and had extensive experience with the L2 (between 12 and 35 years). They all hold a university degree in Greek language and literature, and currently teach Greek at university level. As it was not easy to find speakers with such a high level of proficiency in L2 Greek, we did not have the opportunity to have equal numbers of males and females (or to have a single sex group). In any case, this was not thought to be problematic for the study, as previous studies suggested that there were no significant differences in alignment between females and males (Ladd et al., 2000; Mennen, 1999). The bilinguals all reported that they used both languages on a daily basis. The amount of L1 use was similar for all bilinguals.

2.3. Procedure

Speakers of each group read two repetitions of test sentences which were presented in random order. The speakers of Group D read the two sets of Dutch sentences (one set with one of the long vowels and one with the short vowels), whereas speakers of Group G and Group BG read the set of Greek sentences. Recordings of the materials were made on Digital Audio Tape (DAT) in the studios of the universities of Groningen, Amsterdam, or Edinburgh, or in a quiet room in the speaker's home. Materials were digitized at a 16kHz sampling rate with appropriate low-pass prefiltering. The author selected the first acceptable repetition for further measurement, on the basis of carefully defined selection criteria. Selected sentences were analyzed in the ESPS Waves+ (Entropic Inc.) signal processing package. F0 was extracted using a 49-ms cos4 window moving in 10-ms steps. The alignment of the peak was expressed as the distance of the peak from the end of the accented vowel of the test word.

2.4. Results

First it was established whether bilinguals were able to produce accurate peak timing in their L2 Greek. Therefore, peak alignment data for the bilinguals were compared to the means of the Greek control group in individual one-way ANOVAs (with ITEMS as the random factor and GROUP as a single between-items fixed factor). The results reveal a main effect of the factor GROUP for speakers BG1 [$F(1, 37) = 39.80$; $p < 0.0001$], BG2 [$F(1, 36) = 75.749$; $p < 0.0001$], BG3 [$F(1, 38) = 151.214$; $p < 0.0001$], and BG5 [$F(1, 33) = 40.430$; $p < 0.0001$], but not for speaker BG4 [$F < 1$]. The peak alignment values for speaker BG4 lie within the norms for the native Greek control group (58.3 ms versus 67.1 ms *after* the offset of the vowel, respectively). The peak for the other bilinguals, however, is significantly earlier (mean peak alignment is 11.8 ms *before* the offset of the vowel). Individual speakers' means for peak alignment, together with group means for the native Greek control group are graphed in Figure 2.
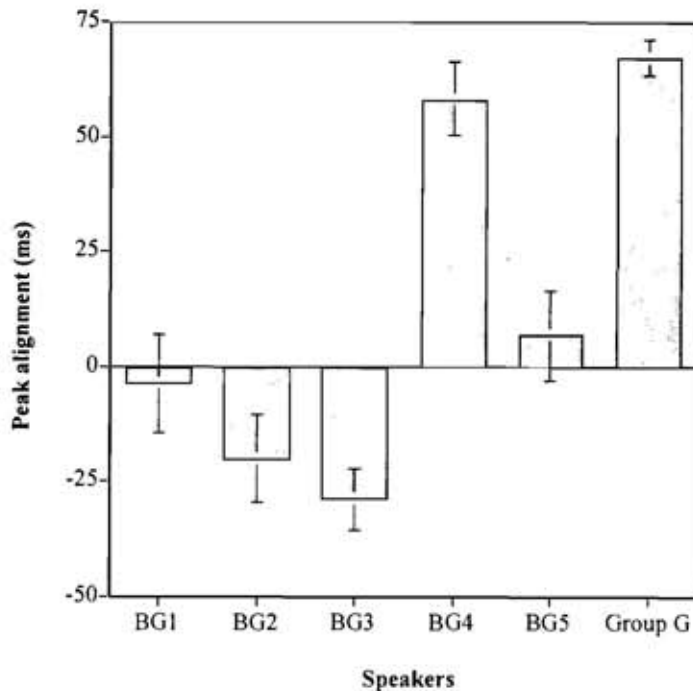

Figure 2. *L2 peak alignment. Means (ms) and standard errors for peak alignment in the Greek materials for each of the bilingual speakers (BG), together with the group means for the native Greek control group (Group G).*

The next step was to investigate whether bilinguals who did not fully acquire Greek peak alignment had developed some kind of merged system, intermediate between the native Dutch and Greek control groups. In order to assess this, the means for those bilingual speakers who did not reach native peak alignment values in their L2 (all speakers apart from BG4) were calcualted for each item and entered into three overall one-way ANOVAs: one comparing them to the means for the set of items with the long vowels

produced by the Dutch control group; a second comparing them to the means for the short vowels produced by the Dutch control group; and a third comparing them to the means for the set of Greek sentences produced by the Greek control group. The overall one-way ANOVAs confirmed that there was an effect of GROUP when the bilinguals were compared to the native Greek control group [F (1, 38) = 121.07; $p < 0.0001$], with peak alignment earlier for the bilinguals than for the native Greek control group. There was also a main effect of GROUP when the bilinguals were compared to the means for the short vowel syllables produced by the native Dutch control group [F (1, 38) = 29.69; $p < 0.0001$] (with earlier peak alignment for the bilinguals than that for the Dutch control group in short vowel syllables), but there was no significant effect of GROUP when compared to the long vowel syllables produced by the Dutch control group [$F < 1$] (see Figure 3).
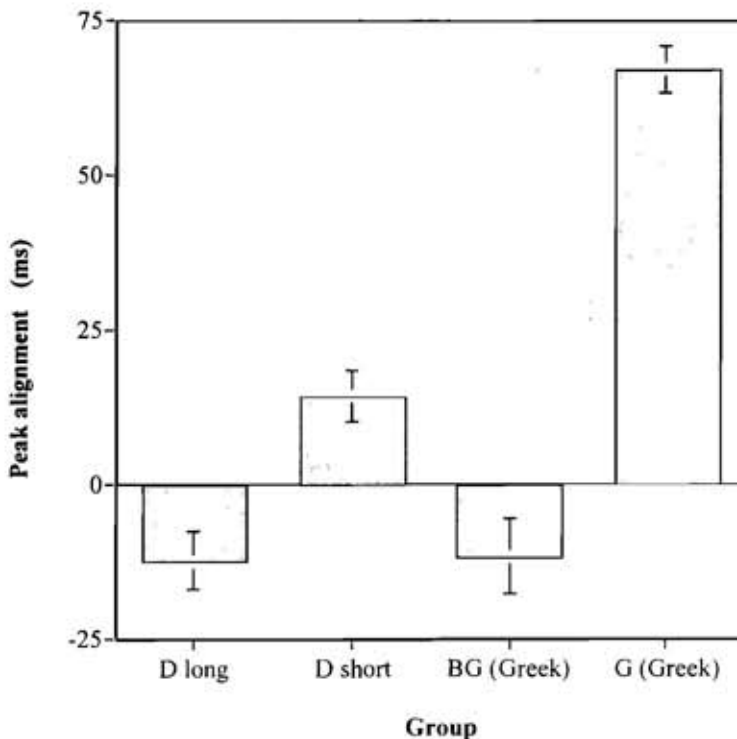
Figure 3. *Means (ms) and standard errors for peak alignment in the long and short vowel materials for the Dutch control group, and in the Greek materials for the group of bilinguals (BG) and the Greek control group (G).*

2.5. Summary of results
Production of L2 (Greek) peak alignment proved to be rather difficult for four out of the five bilingual speakers, even after many years of experience with the Greek language. Peak timing for these four speakers was closer to the means for the native Dutch control group in the long vowel syllables, than to that of the native Greek control group. The results provide evidence that interference from the L1 is indeed an important factor in the production of L2

intonation. The earlier peak aligment in the bilinguals' production of Greek sentences can be attributed to an influence from the native language.

However, one of the bilingual speakers (BG4) did not show any evidence of interference from the L1. She produced peak alignment values which were within the norm for the L2 (native Greek) control group. Discussion about the possible reason for her success is postponed until the discussion of experiment 2.

On the basis of the SLM it was predicted that if bilinguals did not acquire Greek peak alignment, they would develop a 'merged' system. That is, they would produce peak alignment values in the L2 which would be later than those for the native Dutch control group and earlier than those for the native Greek control group. There was no evidence in the data supporting that this was the case. The speakers either reached native L2 peak alignment values (speaker BG4), or they produced values which were similar to the values for the native Dutch control group in the long vowel syllables (speakers BG1, BG2, BG3, and BG5). No evidence was found for values which were intermediate between the L1 and the L2.

3. Experiment 2

The second experiment tested whether experience with the L2 can have an effect on the L1, specifically on its peak alignment. It was tested whether the group of Dutch/Greek bilinguals differed from a Dutch control group in their peak alignment in a set of Dutch sentences.

3.1. Method

For this experiment only the Dutch sentences were used, i.e. 20 sentences with long vowels, and 20 with short vowels in the accented syllables of the test word. The same speakers of the Dutch control group (Group D) and the bilingual group (Group BG) which participated in Experiment 1 also took part in this experiment. The general recording procedure was the same as for Experiment 1, except that this time the speakers only read the Dutch sentences. Just as in Experiment 1, the first acceptable repetition of each test sentence was selected for further measurement (see also Experiment 1).

3.2. Results and discussion

All data were analyzed in two-way (2x2) mixed design ANOVAs, with ITEM as the random factor, PHONOLOGICAL LENGTH as the between-items factor, and GROUP as a within-items factor. The general analyses were followed by individual speaker analyses. The latter were done by means of one-way ANOVAs, with ITEM as the random factor and PHONOLOGICAL LENGTH as a between-items factor. For the bilingual speakers the peak was aligned 5.7 ms before the offset of the vowel when the vowel was long, and 13.5 ms after the vowel offset when the vowel was short. The native Dutch control group aligned the peak 12.5 ms before the vowel offset in long vowels and 24.8 ms after the vowel offset in short vowels. The overall analysis revealed no significant main effect of GROUP $[F (1, 38) < 1]$. There was, however, a significant effect of PHONOLOGICAL LENGTH $[F (1, 38) = 36.02; p < 0.0001]$, together with a significant interaction between the two factors $[F (1, 38) = 10.52; p = 0.002]$. As can be seen in Figure 4, this interaction is due to the fact that there is a larger difference between the peak alignment in the short and long vowels for the Dutch control group than for the group of bilinguals. The bilinguals

align the peak earlier in short vowels and later in long vowels than the Dutch control group does.

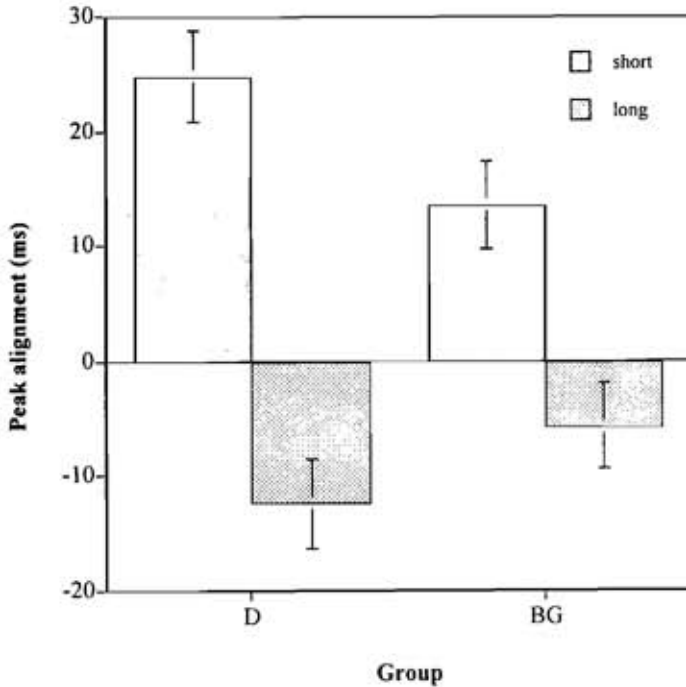
Figure 4. *Means (ms) and standard erros for peak alignment produced in the Dutch materials by the group of bilingual speakers (BG) and the Dutch control group (D).*

All individual analyses for the speakers of the Dutch control group were also significant for the factor PHONOLOGICAL LENGTH. However, for the bilingual speakers this was not always the case. The individual analyses show that only speakers BG1 and BG4 show a similar effect of PHONOLOGICAL LENGTH (for BG1 [$F(1, 38) = 5.621$; p $= 0.023$], and for BG4 [$F(1, 37) = 16.292$; p < 0.0001]). For the other bilinguals there is no significant effect of PHONOLOGICAL LENGTH (for BG2 [$F(1, 36) = 4.033$; p $= 0.052$ ns], for BG3 [$F(1, 38) = 2.963$; p $= 0.093$ ns], and for BG5 [$F(1, 36) = 0.717$; p $= 0.040$ ns].

Thus, the results of this experiment reveal that even though both groups of speakers show a difference in peak alignment between long and short syllables in Dutch, this difference is significantly smaller for the group of bilinguals. In fact, the difference in peak alignment of the bilingual group could be attributed to only two of its speakers, BG1 and BG4. Incidentally, as reported in Experiment 1, speaker BG4 was also the only speaker who had managed to produce native levels of peak alignment in the L2. It can be concluded that speaker BG4 does not show evidence of interference, neither from the L1 in the L2, nor vice versa. On the other hand, the findings for the four other Dutch/Greek bilinguals show an L1 influence on the L2, as well as an L2 influence on the L1.

4. General discussion

The main aim of this study was to establish whether there is evidence of bi-directional interference in the intonation of Dutch/Greek bilinguals. It was found that the majority of bilinguals in this study showed an L1 influence in the production of peak alignment in their L2.

The majority of bilinguals (four out of five) were found to have an L1 influence in their production of L2 sentences. Peak alignment in these sentences was earlier (i.e. within the accented vowel) than that of the native Greek control group (for whom the peak occurred in the following unaccented vowel). More specifically, it was as early as that found in the production of Dutch sentences with long vowels of the Dutch control group. Furthermore, even though these four bilinguals did not produce accurate peak alignment in the L2, their L1 was affected nevertheless. Only one of them showed similar peak alignment to the Dutch control group, with an earlier peak in phonologically long vowels than in phonologically short ones. The results show that bi-directional interference - which has previously only been attested for segmental aspects of speech production - is also apparent in prosodic aspects.

One speaker (BG4), however, shows a completely different pattern. Her peak alignment values lie within the native norms in *both* languages. In other words, her data provided no evidence for interference in either of her languages. This result suggests that - unlike the other four speakers - speaker DG4 is able to keep the L1 and L2 types of peak alignment apart.

The question arises of how it is possible that this speaker does not show any signs of interference in either language, whereas the other speakers show evidence of interference in both languages. Factors reported to have an influence on the occurrence and degree of interference are age of learning (Flege, Munro, & Mackay, 1995; Long, 1990), relation between L1 and L2 systems (Best, 1994; Best, 1995; Flege, 1992, 1995), and amount of L1 use (Flege, 1995; Flege et al., 1997; Guion et al., 2000; Piske & MacKay, 1999). The only difference found between speaker BG4 and the other bilinguals was a slight difference in age of learning. Even though all the bilinguals in this study had started learning the L2 in adulthood, speaker DG4 was slightly younger than the other speakers (18 as opposed to 20-25 years of age) when she started learning Greek. Furthermore, when questioned afterwards, it appeared that she had failed to mention that she had been exposed to Greek on a fairly regular basis from the age of 15. It is well possible that this is what made her so successful. In order to investigate whether age of learning could be a factor in preventing the two systems to interact, the same experiments were replicated with a simultaneous bilingual. This speaker (BG6) acquired both Dutch and Greek in childhood. The results for speaker BG6 confirmed the earlier findings, e.g. no evidence for interference was found in his data. This result, combined with the results for speaker BG4 suggest that age of learning may indeed be a factor contributing to the development of differentiated systems. However, more research is necessary in order to confirm this finding.

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ΙΤΑΛΟΕΛΛΗΝΙΚΗ ΔΙΓΛΩΣΣΙΑ.
ΤΟ ΕΛΛΗΝΟΚΑΛΑΒΡΙΚΟ ΙΔΙΩΜΑ ΑΠΟ ΜΙΑ ΝΕΑ ΟΠΤΙΚΗ ΓΩΝΙΑ*

> *"Είναι καλύτερα να θεωρήσουμε τον γλωσσολόγο*
> *και τον φιλόλογο όχι ως διαφορετικά πρόσωπα,*
> *αλλά ως διαφορετικούς ρόλους που μπορούν να*
> *αναληφθούν από το ίδιο πρόσωπο"*
> (G.Leech, στο: Μπαμπινιώτη 1991)

Abstract

In the south of Italy, for many centuries the Greek language and the Latin language have been coexisting and "struggling" for prevalence. The Latin "won" in the end, but the Greek still stands up in the region of "Bovesia" (the so called "grecanico"), receiving however continuous and material influences from the Italian language (to be exact, from the southcalabrian dialect, particularly in his variety of the region Aspromonte).

In this paper the above situation is described in his general lines; some examples of italian interference at the morphological, phonological and lexical level are also given.

Εισαγωγή

Το ελληνικό ιδίωμα της Καλαβρίας[1] αποτελεί ενδεικτική περίπτωση συνύπαρξης και αλληλοεπίδρασης της ελληνικής και της ιταλικής γλώσσας σε έναν εξωελλαδικό χώρο. Μολονότι είναι πλούσια η παραγωγή σχετικών γλωσσολογικών μελετών, ευάριθμες είναι οι προσπάθειες, να εξεταστεί το ιδίωμα αυτό με βάση τον δισυπόστατο χαρακτήρα του και με τα ειδικά εργαλεία της συγκριτικής ανάλυσης. Για πολύ καιρό οι επιστήμονες έδωσαν

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* Ευχαριστώ θερμά τον Καθηγητή της Γενικής Γλωσσολογίας στο Πανεπιστήμιο Αθηνών, κ. Χριστόφορο Χαραλαμπάκη για τις πολύτιμες παρατηρήσεις του.

[1] Στη μελέτη αυτή, προκειμένου για τον ορισμό του συγκεκριμένου ιδιώματος, επιστρατεύονται λέξεις διαφορετικές, οι οποίες ενίοτε ξενίζουν τον Έλληνα αναγνώστη, επειδή λείπουν από τη σχετική ελληνική βιβλιογραφία ή αποτελούν μετάφραση ιταλικών όρων. Έτσι, υπάρχει η ονομασία grecanico, την οποία εισήγαγε ο Rohlfs (1975: 64) και η ονομασία "ελληνοκαλαβρική διάλεκτος", η οποία αποδίδει το ιταλικό dialetto greco-calabro. Η επιστράτευση διαφορετικών όρων κρίνεται απαραίτητη, κυρίως για λόγους "πολιτικής ορθότητας" της γλώσσας και αντικαθιστά ως επί το πλείστον τον χαρακτηρισμό "κατωϊταλικό ιδίωμα", ο οποίος είναι ο επικρατέστερος στην Ελλάδα, παρουσιάζει ωστόσο αρνητικές συνδηλώσεις. Πράγματι, στην ιταλική γλώσσα προτιμάται η έκφραση "νότια Ιταλία" από το παρωχημένο "Κάτω Ιταλία".

βάρος στο ακανθώδες ζήτημα της γεωγραφικής και ιστορικής προέλευσης της ελληνοκαλαβρικής διαλέκτου, ενίοτε εντρυφώντας στην περιγραφή των γλωσσικών φαινομένων (Rohlfs, 1950)[2], πάντα όμως λαμβάνοντας ως επίκεντρο της ανάλυσής τους την ελληνική συνιστώσα έναντι της ιταλικής[3]. Οι Ιταλοί γλωσσολόγοι ειδικότερα, στην αρχή εξακολούθησαν τις προηγούμενες συζητήσεις μεταξύ αρχαϊστών και ρωμαϊστών (Σιδεράς 1979, Minniti 1992), ενώ στη συνέχεια στράφηκαν στην παρακολούθηση των αλληλοεπιδράσεων. Έτσι, επικέντρωσαν την προσοχή τους κυρίως στο ιταλικό στοιχείο (Caracausi 1977, 1979), προεκτείνοντάς την όμως και στη διείσδυση της ελληνικής γλώσσας στη διάλεκτο της Καλαβρίας, όπως έκανε ο Γερμανός ρομανιστής Rohlfs (1975). Ο σπουδαίος αυτός ιστορικός της γλώσσας έδειξε με διεξοδικό τρόπο πόσο οι τοπικές ποικιλίες της ιταλικής, οι οποίες ομιλούνται στο νότιο τμήμα της Καλαβρίας - το "ελληνικό"-, επηρεάστηκαν από τη συνύπαρξή τους με την ελληνική, αναδεικνύοντας παράλληλα τη λατινικότητα του βόρειου τμήματος, όπου η ελληνική ουδέποτε ευδοκίμησε ως ομιλούμενη γλώσσα[4].

Η διαφορετική οπτική γωνία, την οποία επέλεξαν οι μελετητές για να προσεγγίσουν το "γκρεκάνικο", οφείλεται ενδεχομένως στον βαθμό κυριαρχίας σε αυτό του ελληνικού στοιχείου, ο οποίος βαθμός ήταν διαφορετικός σε διαδοχικές χρονικές στιγμές. Έτσι, από τη στιγμή που άρχισε να διαπιστώνεται από τους διαλεκτολόγους ότι η ελληνική γλώσσα στην Καλαβρία υποχωρούσε αισθητά σε σχέση με την ιταλική, λογικό ήταν η προσέγγισή

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[2] Ακόμη και μετά την έκδοση της *Γραμματικής* από τον Rohlfs, ο Καρατζάς (1958: 27) υπογραμμίζει την ανάγκη οι περιγραφικές μελέτες να συνεχιστούν και να ενταθούν· γράφει συγκεκριμένα: *"Je pense que même après la publication de l'"Historische Grammatik der unteritalienischen Gräzität" de Rohlfs, une description exhaustive du parler de chaque village serait très utile : elle nous donnerait l'image de l'archaisme ou des innovations de chacun de ces parlers..."*.

[3] Ο Καραναστάσης (1991: 45-51), λ.χ., δεν λαμβάνει υπ' όψη του το ενδεχόμενο ορισμένες ιδιαιτερότητες του ελληνοκαλαβρικού ιδιώματος να οφείλονται, όπως είναι λογικό, στις επιδράσεις που δέχθηκε από το ιταλικό στοιχείο. Το απόσπασμα, όπου περιέχονται οι απόψεις του γύρω από τις σχέσεις ανάμεσα στις δύο γλώσσες, αξίζει να αναφερθεί αυτούσιο, παρ' ότι μακροσκελές. Γράφει λοιπόν ο ερευνητής της Ακαδημίας Αθηνών: "Η γλώσσα των Ελληνοφώνων της Κάτω Ιταλίας παρά την μακραίωνη συμβίωσή της με τα τοπικά Ιταλικά ιδιώματα, την καταθλιπτική πίεση των οποίων υφίσταται συνεχώς, διατηρεί θαυμαστή πληρότητα ακόμη και σήμερα που, δυστυχώς σύμφωνα με όλες τις ενδείξεις, διανύει τις τελευταίες δεκαετίες της ζωής της. Τα Ιταλικά λεξιλογικά δάνεια τα οποία δέχτηκε κατά τη διάρκεια της συμβίωσης προσαρμόσθηκαν προς το Ελληνικό γλωσσικό περιβάλλον, πολιτογραφήθηκαν και αποτέλεσαν ένα σώμα και έτσι δεν μπόρεσαν να αλλοιώσουν την ταυτότητά της. Σ' αυτό συνέβαλε κυρίως *η υπεροχή της έναντι των Ιταλικών ιδιωμάτων*" (ό.π.: 45).

[4] Η διείσδυση αυτή αποδεικνύεται από τον Rohlfs με πλήθος παραδειγμάτων, από τα οποία αναφέρονται εδώ, μεταξύ άλλων, το υψηλό ποσοστό ελληνικών στοιχείων στο λεξιλόγιο (όπου συχνά ελληνικές μορφές συνυπάρχουν με τις ρομανικές), η ελληνότροπη χρήση του συντακτικού (αόριστος αντί παρακειμένου, υποθετικός λόγος με παρατακτικό τόσο στην υπόθεση όσο και στην απόδοση, οι μορφολογικές μεταβολές σε συνδυασμό με σημασιολογικού τύπου ιδιαιτερότητες (π.χ. η διαφορά γένους ανάμεσα στο δέντρο και τον καρπό του), κοκ. (Rohlfs 1975: passim).

τους να αποκτήσει "ιταλοκεντρικό" προσανατολισμό και η έρευνά τους να διαμορφώνεται ανάλογα με τις γλωσσικές εξελίξεις[5]. Η μελέτη των επιδράσεων που δέχθηκε το ελληνικό στοιχείο από το ιταλικό, η οποία έχει σχεδόν σταματήσει από τη δεκαετία του '70[6], έδωσε σημαντικά αποτελέσματα, κυρίως όμως έθεσε αρκετά ζητήματα, τα οποία μένουν ακόμη αναπάντητα. Η παρούσα ανακοίνωση προτίθεται να παρουσιάσει κάποια από αυτά στις γενικές τους γραμμές, δίνοντας παράλληλα και κάποιες προτάσεις για τη διερεύνησή τους.

Η συνέχιση της μελέτης των ιταλικών επιδράσεων σε διαχρονικό και συγχρονικό επίπεδο, η συγκέντρωση στοιχείων που απορρέουν από τη λεξικολογική, φωνολογική και μορφοσυντακτική ανάλυση, η πολλαπλή αξιοποίησή τους, λ.χ. στον προσδιορισμό της δυναμικής της διγλωσσίας[7], αλλά και με στόχο τη χρονολόγηση των ελληνόγλωσσων κειμένων, αποτελούν μερικά μόνο από τα προβλήματα που ανέκυψαν και που αναμένουν την επίλυσή τους. Πρόκειται προφανώς για γλωσσοφιλολογικά θέματα, τα οποία είναι αλληλένδετα και αφορούν όλα τα επίπεδα της γλωσσικής ανάλυσης, απαιτούν δε και ιδιαίτερες μεθοδολογικές προσεγγίσεις. Έτσι, από μεθοδολογική άποψη, καθίσταται άμεσα απαραίτητη, μεταξύ άλλων, η συστηματική διερεύνηση των ιταλικών επιδράσεων, η οποία θα διεξαχθεί πάνω στα πάμπολλα στοιχεία που περιέχονται σε όλα ανεξαιρέτως τα κείμενα που οι μελετητές έχουν στη διάθεσή τους. Εξάλλου, εκτός από έργο της ταύτισης και της

[5] Ήδη από τον 19ο αιώνα παρατηρείται εκτεταμένη ιταλικοποίηση. Από το '50 και ύστερα, η κατάσταση της διγλωσσίας μεταβάλλεται σταθερά, με την ελληνική να υποχωρεί σχεδόν οριστικά λόγω των μετακινήσεων του ελληνόφωνου πληθυσμού ύστερα από τις πλημμύρες του '60-'70. Ακόμη και στα πλαίσια της διγλωσσίας, η θέση της ελληνικής είναι εξαιρετικά περιορισμένη, ενώ σήμερα μπορούμε σχεδόν να μιλάμε για οριστική υποχώρησή της. Η γλωσσική κατάσταση των τελευταίων δεκαετιών απεικονίζεται ρεαλιστικά από συλλογή κειμένων, που πραγματοποίησα στα ελληνόφωνα χωριά της Καλαβρίας στο διάστημα 1980-82 και η οποία βρίσκεται υπό έκδοση (Minniti: 2001).

[6] Ελάχιστη συμβολή στη συγκεκριμένη κατεύθυνση θα μπορούσε να θεωρηθεί η μελέτη μου "Επιδράσεις της ιταλικής γλώσσας στο ελληνικό ιδίωμα της Καλαβρίας μέσα από τα *Testi neogreci di Calabria*", η οποία αποτέλεσε θέμα ανακοίνωσής μου στο Διεθνές Συνέδριο με θέμα "Ελληνική παρουσία στην Κάτω Ιταλία και Σικελία", το οποίο διοργανώθηκε από το Ιόνιο Πανεπιστήμιο (Κέρκυρα, 29-31 Οκτωβρίου 1998). Στη μελέτη γίνεται αναφορά σε ορισμένες διαδικασίες προσαρμογής και αφομοίωσης του ελληνικού στοιχείου από το ιταλικό, οι οποίες συνοψίζονται στα ακόλουθα φαινόμενα: μεταβολές μορφοσυντακτικών στοιχείων (λ.χ., "ουδετεροποίηση" ιταλικών ουσιαστικών αρσενικού γένους, ιταλικοποίηση μορφημάτων ορισμένων υποκοριστικών, ελληνικοποίηση καταλήξεων ιταλικών ρημάτων, τάση αντικατάσταση της ονομαστικής και της γενικής πτώσης με την αιτιατική), σημασιολογικού δανεισμού (επίθετα, δεικτικές αντωνυμίες, επιρρήματα και σύνδεσμοι), κοκ. Όσον αφορά το επίπεδο του συντακτικού και ειδικά τα ρήματα, παρατηρούνται κυρίως φαινόμενα εξάλειψης (μέλλοντας) αλλά και διατήρησης (υπερσυντέλικος, απαρέμφατο) χρόνων και εγκλίσεων, τα οποία αποδίδονται από τους μελετητές στην επενέργεια του ιταλικού adstrato (Rohlfs 1950: passim)

[7] Ο όρος "διγλωσσία", όπως χρησιμοποιείται εδώ, παραπέμπει στην έννοια *bilinguism*, δηλαδή στη συνύπαρξη δύο διαφορετικών γλωσσικών κωδίκων στα πλαίσια μιας κοινωνικής ομάδας (Weinreich 1953: 43) και όχι στη χρήση διαφορετικών ποικιλιών του ίδιου γλωσσικού κώδικα, οπότε ο ενδεδειγμένος όρος θα ήταν *diglossia* (Ferguson 1959: 285).

συλλογής των ιταλισμών, χρήσιμη είναι η συγκέντρωσή τους σε ειδικά γλωσσάρια και η κατάταξή τους σε καταλόγους γραμματικών κατηγοριών. Πιστεύεται δε ότι με τη συστηματική αυτή προσέγγιση θα διευκολυνθεί η περαιτέρω επεξεργασία και η αντιπαραβολή των δεδομένων, ώστε να γίνει εφικτή η εξαγωγή συγκριτικών συμπερασμάτων. Παρά τα σπουδαία συμπεράσματα της συγκριτικής ανάλυσης, στην οποία προχώρησε ο Rohlfs με την έκδοση της *Grammatik* (1950) και της λεξικογραφικής έρευνας, που πραγματοποίησε ο Caracausi στο *Indice lessicale* των *TNC* (1979ª), μπορεί κανείς να ισχυριστεί ότι η επεξεργασία των διατιθέμενων κειμένων βρίσκεται οπωσδήποτε μακριά από το να έχει εξαντλήσει τα όριά της. Εξάλλου, η επιβεβλημένη εκμετάλλευση όλων των γλωσσικών δεδομένων στην αποσαφήνιση της ελληνοϊταλικής διαπλοκής, ανοίγει ερευνητικές προοπτικές, οι οποίες είναι ιδιαίτερα ελκυστικές.

Η προσέγγιση της διγλωσσίας αυτής στην Καλαβρία, με στόχο την περιγραφή της, αποτελεί θέμα τεράστιο και πολύπλευρο, δεδομένης της μεγάλης γεωγραφικής, χρονικής και πολιτισμικής έκτασης, την οποία καλύπτει η συνάντηση της ελληνικής με την ιταλική στο μεσογειακό χώρο. Ωστόσο, είναι πλέον βέβαιο ότι, προκειμένου για την εξέταση της ιταλικής του συνιστώσας, το συγκεκριμένο ιδίωμα είναι ανάγκη να μελετηθεί κατ' αρχήν σε συνάρτηση με το γλωσσικό σύστημα της ιταλικής (και ειδικότερα της καλαβρικής διαλέκτου), και αφ' ετέρου να συγκριθεί παράλληλα με διαλέκτους της ΝΕ. Σκοπός της σύγκρισης αυτής θα ήταν τώρα ο παραλληλισμός ορισμένων λατινογενών φαινομένων του με αντίστοιχα φαινόμενα που απαντούν στη ΝΕ και αφορούν τον επηρεασμό της από το ρομανικό στοιχείο. Ο παραπάνω συλλογισμός ίσως γίνει σαφέστερος με την αναλυτική παρουσίαση των δύο προτάσεων εργασίας.

Η επίδραση της καλαβρικής διαλέκτου στο ελληνικό ιδίωμα

Στα πλαίσια της δυναμικής της διγλωσσίας, η ανταπόκριση ή, αναλόγως, η αντίσταση που πρόβαλλε η ελληνική γλώσσα -μία εξαιρετικά συντηρητική γλώσσα (Meillet, 1930: 99)- στη συστηματική πίεση της ιταλικής, εξαρτήθηκε κατά κύριο λόγο από τις μεταβολές που σημειώνονταν διαχρονικά στην καλαβρική διάλεκτο. Από την άλλη, η διάλεκτος αυτή, όπως είναι λογικό, δεν εξελίσσεται αυτόνομα, αλλά, όπως κάθε ιταλική διάλεκτος, συμμετέχει στο σύστημα της "εθνικής" γλώσσας και υφίσταται τις ίδιες εξελίξεις του σε πολλαπλό επίπεδο (Berruto, 2001: 73). Δημιουργείται, λοιπόν, ένα πλέγμα διαπλοκών μεταξύ (ελληνικής) "γκρεκάνικου" / ιταλικής (καλαβρικής), που διαμορφώνεται κυρίως από το λεκτικό και το μορφοφωνολογικό παράγοντα, λιγότερο δε από το συντακτικό, πάνω στο οποίο καλείται να παρέμβει ο επαρκής γνώστης των εμπλεκόμενων ποικιλιών. Λεπτομερέστερη αναφορά σε μορφές της ιταλικής επίδρασης θα αποκαλύψει το εύρος και την πολυπλοκότητα του εξεταζόμενου φαινομένου.

Η διάβρωση του ελληνικού ιδιώματος από την ιταλική γλώσσα δεν σταματά στο λεξιλόγιο, όπου είναι εμφανέστατη[8], αλλά επεκτείνεται, λ.χ., και στο επίπεδο της

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[8] Στα *TNC*, καθώς επίσης στο σχετικό *Indice lessicale* (Caracausi 1979), η συχνότητα με την οποία εμφανίζονται ιταλισμοί στον ελληνικό ιστό, είναι κάθε άλλο παρά αμελητέα. Παραθέτω μερικά ενδεικτικά στοιχεία: Από τα 2842 λήμματα που καταμετρούνται στο index, 1451 ανήκουν στο ιταλικό λεξιλόγιο, δηλαδή πάνω από τα μισά. Εξάλλου, και από την άποψη της σημασιολογικής συνοχής των κειμένων, αξίζει να παρατηρηθεί ότι, στα ζεύγη των συνωνύμων, λ.χ., μία από τις δύο μονάδες είναι σταθερά ιταλικής προελεύσεως, δηλαδή ανήκει στην καλαβρική διάλεκτο ή στον ευρύτερο λατινογενή χώρο. Αρκετές είναι,

προφοράς, όπου ορισμένες αποκλίσεις από τη ΝΕ ενδέχεται να εξηγηθούν αποτελεσματικά με βάση το φωνητικό σύστημα της καλαβρικής ποικιλίας. Ήταν πράγματι αναπόφευκτο, οι φωνολογικές ιδιαιτερότητες της ιταλικής γλώσσας (Canepari 1999) να επηρεάσουν με την πάροδο του χρόνου την άρθρωση των ελληνόφωνων, όχι μόνο επιφέροντας ουσιαστικές αλλαγές σε μεμονωμένα φωνήματα, αλλά μεταβάλλοντας και τους συνδυαστικούς κανόνες. Το αποτέλεσμα ήταν να δημιουργηθεί η ακουστική ιδιαιτερότητα που διαφοροποιεί ουσιαστικά την προφορά του ιδιώματος της Καλαβρίας από αυτήν άλλων νεοελληνικών ιδιωμάτων, όπως θα φανεί και από τον παρακάτω σχολιασμό κάποιων παραδειγμάτων.

Αρκετά είναι τα φαινόμενα ελληνορομανικής παρεμβολής που έχουν μελετηθεί και τα οποία αφορούν πραγματώσεις των ελληνικών φωνηέντων εξαιτίας της επαφής τους με το ρομανικό στοιχείο. Αναφέρονται, μεταξύ άλλων, φαινόμενα "κλεισίματος" (λ.χ. κατωϊταλ. *kúkkalo*, "κρανίο" < "κόκκαλο"), διφθογγοποίησης, όπως είναι η –χαρακτηριστική στις νοτιοϊταλικές διαλέκτους- μεταφωνία (Silvestri 1994: 93), η ουρανοποίηση (λ.χ. κατωϊταλ. *arcinicó* < "αρσενικό"), κ.ά. Ένα από τα πιο ενδιαφέροντα φαινόμενα είναι αυτό που σχετίζεται με την απλοποίηση των συμφώνων. Ο Caracausi (1979[a]: 3-11), αναπτύσσοντας κάποιες εκτιμήσεις του Καψωμένου (1953: 323), παρατηρεί ότι τα ελληνικά ιδιώματα της Καλαβρίας και της Απουλίας, ενώ διατηρούν τον συμφωνικό διπλασιασμό[9] –κάτι που συμβαίνει, μεταξύ άλλων, και λόγω της παράλληλης παρουσίας του ίδιου φαινομένου στα ιταλικά-, από την άλλη, λόγω της εξωτερικής πίεσης, σταδιακά προχώρησαν στην απλοποίηση ορισμένων φωνολογικών συνόλων, προφανώς επειδή αυτά μοιάζουν σύνθετα στο αισθητήριο του ιταλόφωνου.. Έτσι, ακολούθησαν την τάση που παρουσιάζουν οι νοτιοϊταλικές (η καλαβροσικελική ειδικότερα) διάλεκτοι, να παρεμβάλλουν το πλευρικό r στην εκφορά κάποιων συμπλεγμάτων, με αποτέλεσμα ελληνικά συμπλέγματα, όπως είναι λ.χ. βδ, γδ, φθ, χτ, να υφίστανται τις ακόλουθες εξελίξεις αντίστοιχα : *rd* (< *dd*), *rt* (*fθ*), *rt* (< *tt* < *θt*), κοκ. Παρατηρείται, πράγματι, ότι το r αντικαθιστά το πρώτο ελληνικό συνθετικό, επιφέροντας φωνολογικές μεταβολές. Αν εξετάσουμε, λοιπόν, την ελληνική λέξη "αβδέλλα", διαπιστώνουμε τις ακόλουθες κατωϊταλικές εξελίξεις: *andélla* > *andédda* > *addédda* > *ardédda* (κατ' αναλογία με το καλαβρικό *cardélla*). Το ίδιο συμβαίνει και σε μεγάλο αριθμό άλλων λέξεων που παρουσιάζουν τα παραπάνω διπλά σύμφωνα, λ.χ. (τα παραδείγματα είναι όλα από το Bova): *lírdo* < *liddo* < * λίγδον, λίγδα· *artammó* < * *afθammó* < οφθαλμός· *artaríða* < *lattaríða* < *laθtaríða* < ΝΕ διάλ. "λαχταρίδα" (νυχτερίδα), κοκ. Οι προηγούμενοι τύποι μαρτυρούν με σαφήνεια τις διαχρονικές φάσεις της εξεταζόμενης μεταλλαγής, αποτελούν ωστόσο μόνο απλές ενδείξεις ενός φαινομένου που επεκτείνεται διαρκώς, όπως επιβεβαιώνει και η συγκριτική έρευνα στις πιο πρόσφατες φωνολογικές εξελίξεις της διγλωσσίας[10].

τέλος, οι περιπτώσεις ελληνικών δανεισμών στην ιταλική, οι οποίοι επανα-δανείζονται από το "γκρεκάνικο", έχοντας υποστεί διάφορες τροποποιήσεις.

[9] Το φαινόμενο δεν απαντάται στη φωνολογία της κοινής νεοελληνικής (Σετάτος 1974), ενώ παρατηρείται και σε άλλες νεοελληνικές διαλέκτους, λ.χ. την κυπριακή (Χατζηϊωάννου 199 ?).

[10] Πρόσφατα πρέπει να συντελέστηκαν και άλλες σημαντικές μεταβολές φθόγγων, από τις οποίες η πιο χαρακτηριστική είναι δίχως αμφιβολία η συριστικοποίηση του μεσοδοντικού *th* σε *s*, λόγω της αδυναμίας των Ιταλών να το προφέρουν. Το φαινόμενο αυτό δεν απαντά στα *TNC*, παρατηρείται όμως σε σημερινά κείμενα (Minniti: 2001).

Από το πλούσιο σχολιασμό του Caracausi, πάντως, ενδιαφέρει προς το παρόν να σταθούμε σε μία συγκεκριμένη παρατήρηση, σύμφωνα με την οποία, στη βάση παράλληλων εξελίξεων στην καλαβρική διάλεκτο, είναι δυνατό να εξαχθεί το συμπέρασμα ότι η εξομοίωση του vd σε dd "δεν είναι προγενέστερη του περασμένου αιώνα (scil. του 19ου)"(ib.). Κατά συνέπεια, δεν θα ήταν λάθος να ισχυριστεί κανείς ότι η απλοποίηση του συμπλέγματος αυτού σε rd πρέπει να θεωρηθεί μεταγενέστερη και να τοποθετηθεί σε πιο κοντινή σε μας εποχή. Η εφαρμογή αυτού του τύπου πορισμάτων στην επίλυση φιλολογικών ζητημάτων, λ.χ. στη μελέτη των ελληνόγλωσσων κειμένων, ενδέχεται να αποδειχθεί χρήσιμη, επιβεβαιώνοντας στην πράξη τη θεωρητικά "ισότιμη συνεργασία" μεταξύ της γλωσσολογίας και της φιλολογίας (Μπαμπινιώτης 1991: 55).

Ας εξετάσουμε πιο αναλυτικά την παραπάνω υπόθεση. Τα *corpora* που οι μελετητές έχουν στη διάθεσή τους, αποτελούνται από τα κείμενα[11] που συγκέντρωσε ο Rohlfs κατά την πολυετή επιτόπια έρευνά του (1950, 1964), κυρίως όμως από τη συλλογή *Testi neogreci di Calabria*, η οποία έγινε από τους Rossi Taibbi και Caracausi (1959). Στον τόμο αναδημοσιεύονται κυρίως δημοτικά προφορικά κείμενα (παραμύθια, τραγούδια, παροιμίες, κτλ.), τα οποία σώζονταν σε διάσπαρτες συλλογές ή ελάνθαναν σε διάφορες εκδόσεις από το 1821 έως το 1956. Η έως τώρα αδυναμία ελέγχου της παρείσφρυσης γλωσσικών στοιχείων από την καλαβρική στον ιστό του ελληνικού ιδιώματος αποτελεί, σύμφωνα με την άποψή μας, το σοβαρότερο εμπόδιο στη χρονολόγηση αυτών των κειμένων. Το ζητούμενο είναι, δηλαδή, να εξακριβωθεί αν τα συγκεκριμένα κείμενα αντικατοπτρίζουν την κατάσταση της γλώσσας κατά τη χρονική στιγμή που τα άκουσαν οι συλλέκτες τους από τους ελληνόφωνους μάρτυρες, ή, όπως είναι εξίσου φυσιολογικό, αν αποτελούν μαρτυρίες ή επιβιώσεις από προηγούμενες εποχές και φάσεις της γλώσσας. Οι επιμελητές της συλλογής σημειώνουν: *"I testi non rappresentano lo stato odierno della grecità calabrese, e il loro valore documentario è retrospettivo, non attuale"* (TNC: XXXVII)[12]. Πράγματι, στοιχεία δομικού τύπου, αλλά και υφολογικής φύσης, όπως είναι η αποσπασματικότητα των στίχων, η απλοϊκότητα των θεμάτων και η επανάληψη ίδιων μοτίβων, συντρέχουν στη διαπίστωση ότι τα κείμενα έχουν ήδη υποστεί αναμφίβολη φθορά. Σύμφωνα με τα παραπάνω στοιχεία, λοιπόν, η προέλευσή τους τοποθετείται πριν από το 1821. Από την άλλη, ο Caracausi δηλώνει αδυναμία ως προς την ανασύσταση της διαδικασίας ρομανικοποίησης "εξαιτίας της έλλειψης ντοκουμέντων προγενέστερων του περασμένου αιώνα (scil. του 19ου)" (1979: VI). Πράγματι, σύμφωνα με την άποψη του ίδιου γλωσσολόγου, οι γραπτές πληροφορίες στην ελληνική γλώσσα στη Σικελία και την Καλαβρία φθάνουν ώς τον 14ο αιώνα[13]. Αξίζει, πάντως, να σημειωθεί ότι, λόγω των

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[11] Χρησιμοποιώ τη λέξη "κείμενο" σύμφωνα με τη θεωρητική σημασία που της απέδωσε ο Hjelmslev (1961), ως γραπτή αλλά και προφορική εκφώνηση.

[12] Παραθέτω τη μετάφραση του αποσπάσματος: "Τα κείμενα δεν αντιπροσωπεύουν τη σημερινή κατάσταση της ελληνικής γλώσσας στην Καλαβρία και η αξία τους είναι αναδρομική, όχι σύγχρονη".

[13] Κατά τη βυζαντινή και υστεροβυζαντινή περίοδο, η παρουσία της ελληνικής γλώσσας στη νότια Καλαβρία και τη δυτική Σικελία είναι πλούσια τεκμηριωμένη. Ογκώδες *corpus* βυζαντινών και νορμανδικών εγγράφων, το *Syllabus graecarum membranarum* του Trinchera και τα *Diplomi greci ed arabi di Sicilia* του Cusa, τα οποία χρονολογούνται από τον 10ο ώς τον 14ο αιώνα, πιστοποιούν για την περιοχή την ύπαρξη διγλωσσίας και ενίοτε τριγλωσσίας, επιβεβαιώνοντας τη συνύπαρξη της ελληνικής με τη λατινική, ενίοτε και με

παραπάνω δυσκολιών, στα *Testi Neogreci di Calabria* δεν γίνεται καμιά προσπάθεια χρονολογικής κατάταξης των κειμένων. Αντιθέτως, αυτά παρατίθενται με δηλωμένη πρόθεση να αναδειχθούν ιδιαιτερότητες και διαφοροποιήσεις του ιδιώματος σε συγχρονικό επίπεδο, παρά να ακολουθηθούν οι ενίοτε εμφανείς διαβαθμίσεις διάβρωσης του ελληνικού ιστού. Τη διάβρωση αυτή οι επιμελητές της συλλογής υπογραμμίζουν "εξ αντιθέτου", επισημαίνοντας με πλάγια γράμματα ή διαφορετικά τυπογραφικά στοιχεία την ύπαρξη ιταλισμών, τόσο στα δημοσιευμένα κείμενα όσο και στο σχετικό γλωσσάριο.

Το ερώτημα είναι, λοιπόν, αν οι συνθήκες που βιώνει το ιδίωμα στο μεσοδιάστημα αυτό (14ο-19ο αι.), είναι δυνατό να ανασυσταθούν *a posteriori*, με άλλα λόγια στη βάση πορισμάτων της γλωσσικής έρευνας και μέσα από μια διαδικασία ταύτισης γλωσσικών φαινομένων. Εξάλλου, είναι θεμιτό να υποτεθεί ότι, η έστω κατά προσέγγιση χρονολόγηση των σωζόμενων ελληνόφωνων κειμένων, μπορεί να επιτευχθεί με την ταύτιση και χρονολόγηση των στοιχείων από την τοπική ιταλική διάλεκτο που απαντούν στα κείμενα αυτά. Ένα δείγμα αυτής της διαδικασίας στο επίπεδο της φωνολογίας αναφέρθηκε προηγουμένως, αλλά διεξοδικότερη έρευνα θα μπορούσε να αποκομίσει πολυάριθμα και πειστικά συμπεράσματα. Βέβαια, θα είναι ίσως αδύνατο να εξηγηθούν όλα τα φαινόμενα, ωστόσο θα πρέπει να είναι σχετικά εφικτή η αναγνώριση σημαντικού μέρους τους. Άλλωστε, η πρόοδος που σημειώθηκε τα τελευταία δεκαπέντε χρόνια στη διερεύνηση της ιστορίας της καλαβρικής διαλέκτου θα μπορούσε να βοηθήσει σημαντικά προς τη συγκεκριμένη κατεύθυνση[14].

Το ρομανικό στοιχείο στο κατωϊταλικό και σε άλλα ιδιώματα της ΝΕ

Η υπόθεση εργασίας που εκτέθηκε πιο πάνω, εξετάζει το κατά πόσο η έντονη ρομανικοποίηση του ελληνικού ιδιώματος της Καλαβρίας μπορεί να αναζητηθεί στην αναμφισβήτητη επίδραση του ιταλικού διαστρώματος[15]. Από την άλλη, όμως, δεν μπορεί

την αραβική (Caracausi 1977: 532-33). Τα έγγραφα αυτά, όμως, ήδη περιέχουν αδιάψευστες αποδείξεις της "νόθευσης" της ελληνικής από στοιχεία καθομιλούμενης λατινικής, η οποία την εποχή εκείνη ήδη εξελισσόταν ραγδαία προς τη δημώδη, αλλά και την τοπική ιταλική της μορφή (δηλαδή, την καλαβροσικελική διάλεκτο). Τα πολυάριθμα αυτά ρομανικά στοιχεία, εγγράφονται στη διγλωσσία του καλαβροσικελικού χώρου ως τα πρώτα φαινόμενα διάβρωσης της ελληνικής από το ιταλικό στοιχείο, η οποία θα συνεχίσει να επιδρά και στους μετέπειτα αιώνες, ακόμη και όταν η ελληνική θα έχει πλέον συρρικνωθεί στα βουνά του Ασπρομόντε, το τελευταίο προπύργιο της ιταλικής ελληνοφωνίας.

[14] Αξιόλογες μελέτες για το λεξιλόγιο και την πορεία της καλαβρικής διαλέκτου γενικότερα (Mosino 1985, 1987-1989) φωτίζουν κάποια ερμηνευτικά ζητήματα, κυρίως όμως θέτουν ορισμένα *termina*, στα πλαίσια των οποίων μπορεί να ενταχθεί πληθώρα λέξεων, των οποίων έως τώρα αμφισβητούνταν η "ηλικία" και η προέλευση.

[15] Οι όροι "διάστρωμα" και "επίστρωμα" αποδίδουν τις λέξεις "adstratum" και "superstratum" αντίστοιχα, τις οποίες οι γλωσσολόγοι (μεταξύ των οποίων οι Ιταλοί C. Cattaneo e G.I. Ascoli) δανείστηκαν από την αρχαιολογία για να εξηγήσουν χαρακτηριστικά φαινόμενα γλωσσικής αλληλοεπίδρασης. Έτσι, μιλάμε για "επίστρωμα", όταν μία κοινότητα, η οποία χρησιμοποιεί μία γλώσσα, ασκεί εκτεταμένη, αλλά όχι οριστική κυριαρχία πάνω σε άλλη κοινότητα, η οποία ομιλεί μία άλλη γλώσσα. Το

να αγνοηθεί το φαινόμενο του επηρεασμού του συγκεκριμένου ιδιώματος από το ενδογενές (ενδοελληνικό) ρομανικό στοιχείο, δηλαδή από τον δανεισμό της ελληνικής από τη λατινική. Η προοπτική να αναζητηθούν ομοιότητες και κοινά κατάλοιπα μεταξύ της ελληνοκαλαβρικής και των ιδιωμάτων της ΝΕ στο επίπεδο του ρομανικού επιστρώματος παρουσιάζει ιδιαίτερο ενδιαφέρον, αν και είναι ριψοκίνδυνο να αναφέρεται κανείς σε τόσο εκτεταμένη γλωσσική περιοχή και με διαπιστωμένη έλλειψη προκαταρκτικών μελετών. Άλλωστε, η εξαντλητική παρουσίαση αυτής της δεύτερης υπόθεσης εργασίας θα χρειαζόταν πολύ μεγαλύτερο χρόνο από αυτόν που προορίζεται για την προετοιμασία μιας εισήγησης σε συνέδριο. Θα περιοριστώ, λοιπόν, σε κάποιες γενικές αναφορές, παραπέμποντας σε προσεχείς μελέτες μου για περαιτέρω ανάπτυξη του θέματος.

Πιστεύουμε ότι ορισμένοι ρομανισμοί του "γκρεκάνικου" αποτελούν λατινικά κατάλοιπα, τα οποία, ενσωματωμένα στην ελληνική, ίσως μεταφέρθηκαν στη νότια Ιταλία κατά τις μεταναστεύσεις πληθυσμών από τον ανατολικό ελληνόφωνο χώρο. Είναι γνωστό ότι σημαντικά και πολυάριθμα είναι τα δάνεια του λατινικού επιστρώματος στην ελληνική της προβυζαντινής και της βυζαντινής εποχής (Alessio 1939, Χαραλαμπάκης 1984), καθώς επίσης η γενικευμένη επιρροή της ιταλικής, στη βενετική της κυρίως ποικιλία, στις νεοελληνικές διαλέκτους (Cortelazzo, 1983). Άλλα φαινόμενα, ωστόσο, θα πρέπει να αποδοθούν, όπως είναι φυσικό, στην επενέργεια της ρομανικής (λατινικής, ιταλικής), η οποία λειτουργούσε αναλόγως είτε ως διάστρωμα (στην Καλαβρία), είτε ως επίστρωμα (στον ελληνικό και ελληνιστικό χώρο). Εκτιμάται, λοιπόν, ότι η κατά το δυνατό συνεξέταση της συμπεριφοράς του ρομανικού στοιχείου στην κατωϊταλική και σε συγγενικές διαλέκτους της ΝΕ, θα οδηγούσε ίσως στον εντοπισμό κάποιων ισογλώσσων, συμβάλλοντας με τον τρόπο αυτό στην πολυδιάστατη μελέτη της παρουσίας του ρομανικού στοιχείου στην ελληνική γλώσσα. Ένα απλό, αλλά χαρακτηριστικό παράδειγμα είναι η παράλληλη παρουσία του απαρεμφάτου στην Καλαβρία και την Κύπρο. Η επιλογή των δύο περιοχών δεν είναι τυχαία, αλλά βασίζεται στη διαπίστωση μιας κοινής συμπεριφοράς γλωσσικών φαινομένων (Τσοπανάκης 1983: 362), αλλά και ανάλογης ιστορικής πορείας - σε σημείο να μπορεί κανείς να μιλά για περιφερειακό ελληνισμό. Αξίζει να επισημανθεί ότι, σε αυτή τη δεύτερη ερευνητική πρόταση η φιλολογική ανάλυση βαδίζει κατά κάποιον τρόπο με τη γλωσσολογική, με την έννοια ότι τα γλωσσικά τεκμήρια ενδεχομένως επιβεβαιώνουν, παρά αποτελούν προϋπόθεση για την εξαγωγή συμπερασμάτων.

Ο Rohlfs (1964: 175-76) συγκαταλέγει το απαρέμφατο στα συντακτικά και άλλα φαινόμενα, όπως είναι η χρήση του υπερσυντελίκου, η διατήρηση του δωρικού -α, κ.ο.κ., τα οποία ο ίδιος θεωρεί πως αποδεικνύουν τον συντηρητικό χαρακτήρα του

επίστρωμα αποτελείται λοιπόν από τα εμφανή -ως επί το πλείστον λεξικολογικά- στοιχεία, τα οποία μένουν ύστερα από την υποχώρηση της επικυρίαρχης γλώσσας. Απεναντίας, στην περίπτωση του "διαστρώματος", υπάρχει απλώς επαφή ανάμεσα σε δύο γλώσσες, η οποία όμως δεν προϋποθέτει την πολιτική ή πολιτιστική υπεροχή της μιας κοινότητας πάνω στην άλλη. Πάντως, οι συγκεκριμένοι όροι χρησιμοποιούνται στην παρούσα μελέτη με σχηματικό τρόπο, ο οποίος παραπέμπει περισσότερο στη γεωγραφική τους σημασία, παρά στην κοινωνιογλωσσολογική και δεν λαμβάνει αυστηρά υπ' όψη την έννοια του "γλωσσικού κύρους" (για τις έννοιες "στρώμα", "κύρος" και τις αρχές της "γεωγραφικής" γλωσσολογίας (geografia linguistica) γενικότερα, βλ. Silvestri: 52-63).

καλαβροελληνικού ιδιώματος σε σχέση με άλλες ΝΕ διαλέκτους[16]. Ισχυρίζεται δε ότι η διατήρηση του απαρεμφάτου διαπιστώνεται, εκτός από την Καλαβρία, και στον Πόντο, χωρίς να αναφέρει την Κύπρο. Το γεγονός αυτό προξενεί ιδιαίτερη εντύπωση, εκτός αν πρόκειται για δική μας παράβλεψη ή παρερμηνεία. Είναι, πράγματι, γνωστό, ότι η χρήση της συγκεκριμένης έγκλισης πιστοποιείται ευρέως στην κυπριακή διάλεκτο. Απ' όσο γνωρίζουμε, απαντά συχνά στο περίφημο *Χρονικόν* του Λεόντιου Μαχαιρά που φέρει τον χαρακτηριστικό υπότιτλο *Ἔκφρασις τῆς γλυκείας χώρας Κύπρου*. Η διήγηση αυτή μπορεί να θεωρηθεί λόγιο έργο, με την έννοια του μη συλλογικού, χαρακτηρισμός που απεναντίας, αρμόζει στα δημοτικά τραγούδια. Ωστόσο, η γλώσσα, στην οποία συντάχθηκε είναι, σύμφωνα με τους ειδικούς, το λαϊκό τοπικό ιδίωμα, ώστε να θεωρηθεί ότι το *Χρονικόν* αντιπροσωπεύει κυρίως τη γλώσσα που μιλούσε ο λαός της Κύπρου κατά τον 15ο αιώνα (Μαστροδημήτρης 1996: 44).

Η χρήση λοιπόν του απαρεμφάτου είναι συχνή στο έργο. Παραθέτουμε ενδεικτικό απόσπασμα: *θέλω σου ποίσειν τόσον κακόν*, "θέλω να σου κάνω τόσο κακό" (Dawkins: 236)· είναι τα πονεμένα λόγια της βασίλισσας σε αυτήν που η ίδια θεωρεί ερωμένη του βασιλιά. Ας συγκριθεί η προηγούμενη με τις εξής προτάσεις από τα κατωϊταλικά: *an ithele ipi tikandi* "αν ήθελε να πει κατιτίς" (*TNC*: 426 §21), *'en scéri kámi* "δεν ξέρεις να κάμεις" (*TNC*: 461 § 129). Και στις δύο ποικιλίες, λοιπόν, η έγκλιση αυτή φαίνεται να αντικαθιστά τη σύνταξη να + απλή υποτακτική. Ο παραπάνω στίχος του *Χρονικού* ηχεί σε μας ως μετάφραση από τις νεολατινικές γλώσσες, ειδικά από την ιταλική -η οποία, αξίζει να αναφερθεί παρεμπιπτόντως, είναι γενικώς πλησιέστερη στην ελληνική από ό,τι άλλες νεολατινικές γλώσσες, ειδικά όσον αφορά τα γραμματικά φαινόμενα που εμφανίζονται στο εξεταζόμενο χωρίο, λ.χ. η ελευθερία του υποκειμένου, η επιρρηματική λειτουργία του επιθέτου, κτλ. (Simone 1993, Μπουσμπούκη 1995). Γεγονός είναι, ότι το λατινικό απαρέμφατο διατηρείται κανονικά στην ιταλική και τη γαλλική, δύο γλώσσες που άφησαν ανεξίτηλα σημάδια στην κυπριακή διάλεκτο (Χατζηϊωάννου 199?). Όμως, η επιβίωση του απαρεμφάτου στην Καλαβρία και την Κύπρο, είναι θεμιτό να αποδοθεί στην επίδραση του ρομανικού στοιχείου; Ή, μήπως, απλούστερα αποτελεί αρχαιοελληνικό "κατάλοιπο" σε έναν χώρο που έχασε τη δημιουργική επικοινωνία του με τη μητρική γλώσσα, όπως ισχυρίζεται ο παραπάνω γλωσσολόγος; Και αν το τελευταίο ισχύει για τα ελληνοκαλαβρικά, δεν μπορεί ωστόσο να ειπωθεί απόλυτα για την κυπριακή, η οποία, παρά τον αρχαϊκό της χαρακτήρα, εξακολούθησε να έχει δημιουργικές σχέσεις με τη ΝΕ. Από την άλλη, η συμβολή της ιταλικής γλώσσας στα κυπριακά, προφανέστατα δεν ήταν τόσο έντονη όσο και στη νότια Ιταλία, ώστε να μπορέσει να επιδρά αποτελεσματικά πάνω στη σύνταξή τους – η σύνταξη, άλλωστε συνιστά το πιο ανθεκτικό συστατικό μιας γλώσσας (Θεοφανοπούλου-Κοντού 1999: 1).

Είναι πιθανόν, η απάντηση στο προηγούμενο ερώτημα να βρίσκεται σε έναν συνδυασμό των δύο παραγόντων. Εξάλλου, η έρευνα ίσως θα φανέρωνε πειστικότερα παραδείγματα από αυτό το οποίο υιοθετήθηκε εδώ. Ωστόσο, αυτό στο οποίο στοχεύουν οι παραπάνω παρατηρήσεις, είναι να αναδείξουν τη σημασία της συγκριτικής προσέγγισης του συγκεκριμένου θέματος, που δεν έχει ακόμη αξιολογηθεί όσο έπρεπε από τους μελετητές.

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[16] Σχετικά με τη διατήρηση του απαρεμφάτου στη ΝΕ και τις διαλέκτους αυτής, βλ. και την άποψη του Mackridge (1996), όπου και σχετική βιβλιογραφία.

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Η αναζήτηση μιας λύσης στο εσωτερικό της μιας και μόνο γλώσσας, απεναντίας, δεν μπορεί παρά να παραπέμπει σε μονομερείς αντιλήψεις, επειδή θα άφηνε ανεκμετάλλευτη τη δυνατότητα να σταθμιστεί ο επηρεασμός αυτών των ελληνικών διαλέκτων από το ρομανικό στοιχείο γενικά και από το ιταλικό ειδικότερα. Παράλληλα, η μονόπλευρη ιστορική προσέγγιση θα στερούνταν ενδιαφέροντος, διότι δεν θα λάμβανε υπ' όψη τις δημιουργικές οσμώσεις μεταξύ διαφορετικών γλωσσών αλλά και πολιτισμών, καθώς επίσης διαφορετικών επιστημονικών πεδίων. Άλλωστε, στη συγκεκριμένη περίπτωση παραλληλισμού της Καλαβρίας με την Κύπρο, πειστικά τεκμήρια αποτελούν οι γλωσσικές ομοιότητες διαφορετικής φύσης, όπως είναι τα τοπωνύμια, τα οποία απαντούν στις δύο περιοχές, αλλά και οι εξωγλωσσικές αντιστοιχίες από τη λαϊκή παράδοση και τη λογοτεχνία[17]. Αξίζει να αναφερθεί, μεταξύ άλλων, η ύπαρξη αναλογιών υφολογικών και θεματικών στοιχείων στα ελληνόφωνα τραγούδια και τα κυπριακά ερωτικά ποιήματα, τα οποία είναι έντονα επηρεασμένα από την ιταλική λυρική ποίηση. Πιστεύουμε πως οι αντιστοιχίες αυτές μπορεί να αποτελούν απλές συμπτώσεις, συνηγορούν ωστόσο υπέρ της ύπαρξης μιας λανθάνουσας "εκλεκτής συγγενείας" ανάμεσα σε δύο περιοχές του ελληνισμού με έντονη την επίδραση της ιταλικής γλώσσας, συγγένεια η οποία μένει ωστόσο να αποκαλυφθεί.

Η ανακοίνωση αυτή αποσκοπεί στο να τονίσει την από καιρό ιταλικοποίηση του ελληνοκαλαβρικού ιδιώματος, υπογραμμίζοντας την ανάγκη εξέτασής του στο φως αυτής της εξέλιξης και, κατά συνέπεια, με τα ειδικά εργαλεία της μελέτης της διγλωσσίας. Άμεση προτεραιότητα στις "γκρεκάνικες" σπουδές αποτελούν η διερεύνηση των επιδράσεων της καλαβρικής διαλέκτου και, παράλληλα, η αναζήτηση των ρομανικών δανείων που απαντούν στο ιδίωμα, έτσι ώστε να εντοπιστούν ενδεχόμενες ισόγλωσσες στον διευρυμένο χώρο της ελληνοϊταλικής διγλωσσίας, από την Καλαβρία ως την ελλαδική νησιωτική χώρα. Υπάρχει βέβαια επίγνωση της εξαιρετικής δυσκολίας αυτών των εγχειρημάτων. Είναι απαραίτητο, ωστόσο, οι μελέτες του ελληνικού ιδιώματος της Καλαβρίας να ξαναπιάσουν το νήμα από εκεί που το άφησαν σπουδαίοι διαλεκτολόγοι, όπως υπήρξαν ο Rohlfs και ο Caracausi, και να γίνουν πιο συστηματικές, ώστε να μη χαθούν άλλα πολύτιμα τεκμήρια αυτής της μακραίωνης και θαυμάσιας συνύπαρξης των δύο γλωσσών.

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[17] Για χρήσιμα στοιχεία σχετικά με τη σύγκριση αυτή, βλ. Minniti 1992.

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THEORETICAL IMPLICATIONS OF INITIAL GEMINATES IN CYPRIOT GREEK

ABSTRACT

Cypriot Greek (CG) constrasts singleton and geminate consonants in word-initial position: *péfti* 'Thursday'; *ppéfti* 'he falls'. While word-initial geminates are less common than their word-medial counterparts, they are found in a substantial number of unrelated languages and thus must be acknowledged in developing a theory of phonological representation. Word-initial geminates are of particular interest to phonologists since two divergent representational frameworks, moraic theory (Hayes 1989) and segmental theory, including CV or X-slot frameworks (Clements and Keyser 1983, Levin 1985), make substantially different predictions with regard to the expected behavior of initial geminate consonants. The investigation of geminates in CG allows for these implications to be tested.

After establishing that the CG segments are true geminate consonants, rather than sequences of identical segments, analyses of the facts within the different theories will be presented. As will be demonstrated, the patterning of geminates in CG is best accounted for by assuming that the segments are dominated by abstract timing units such as X- or C-slots, rather than by a unit of prosodic weight such as the mora. While there is a considerable amount of evidence suggesting that the moraic representation can supplant the timing-slot representation (e.g. McCarthy and Prince 1995), it is demonstrated here that timing slots are in fact crucial in developing a coherent, explanatory account of geminates in the word-initial environment.

1. INTRODUCTION

Cypriot Greek (CG) is unusual, not only because it is one of the few varieties of Modern Greek that maintains a consonant length contrast, but more importantly because it exhibits this contrast in word-initial position: *péfti* 'Thursday' vs. *ppéfti* 'he falls'. While word-initial geminates are more rare than their word-medial counterparts, they have been attested in a variety of languages (e.g. Luganda, Leti, Hatoma, among others), and thus can not be rejected as anomalous. The investigation of these segments is of particular importance to phonologists because two competing representational frameworks (moraic theory and segmental theory) make crucially different predictions with regard to the expected behavior of geminates and consonant clusters in word-initial position. A detailed investigation of initial geminates and clusters in CG tests the predictions of these frameworks, in a way that the analysis of the more common word-medial segments cannot.

As will be shown in section 2 of this paper, the CG geminates are single segments that behave like consonant clusters. This is an unsurprising pattern that is found in many of the world's languages. What is of particular interest is that this pattern is best accounted for via a segmental representation that has, in recent years, been widely rejected in favor of a moraic representation. Specifically, it will be demonstrated in section 3 that the CG pattern is best described under the assumption that all segments are dominated by an abstract timing unit, along the lines of Clements and Keyer's 1983 CV theory, or Levin's 1985 X-slot theory. For comparison, the moraic theory framework (Hayes 1989) is shown to be inefficient in accounting for the facts of this language. Section 3 offers concluding remarks.

2. DATA
2.1 BACKGROUND AND BASIC FACTS
Geminates are common in CG and are found throughout the language, in both native and borrowed words. These segments are found in both word-medial and word-initial position, as shown below:

(1)   a.   word-medial consonant length contrast

xapárin	'piece of news'	appárin	'horse'
túti	'this girl'	mútti	'nose'
pléķi	'she knits'	purékķin	'cake'
kaká	'bad'	kakká	'feces'

b.   word-initial consonant length contrast

péfti	'Thursday'	ppéfti	'he falls'
távla	'table'	ttávlin	'backgammon'
ķiría	'Mrs.'	kķiŕas	'rent'
kullúrka	'rolls'	kkuláfka	'flattery'

The CG geminates have been described in depth by Newton (1968, 1972) and have been discussed in Hamp (1961) and Malikouti-Drachman (1987). The analysis presented in this paper is the first to examine the implications that CG holds for different modern prosodic frameworks.

2.2 GEMINATES AS SINGLE SEGMENTS
Evidence that suggests CG geminates are single segments, rather than sequences of two identical segments, comes from a variety of sources. One type of evidence comes from a palatalization process. In CG, consonants are realized as palatals before the front vowel /i/. As shown in (2a), the segment /k/ is realized as /č/ in this environment. When a consonant cluster occurs before the high front vowel, as in (2b), only the segment immediately

preceding the vowel is realized as a palatal; the first segment is unchanged. As shown in (2c), the behavior of geminates is different from that of heterorganic consonant clusters. Here, the entire geminate undergoes palatalization, unlike consonant clusters in which only the second half of the cluster is affected by the process.

(2)   Palatalization

a.   kakós   'bad (masc. sg.)'   kačí   'bad (fem. sg.)'

b.   péfkos   'pine tree (nom. sg.)'   pefči   'pine tree (nom. pl.)'   *pečči

c.   sákkos   'jacket (nom. sg.)'   sačči   'jacket (nom. pl.)'   *sakči

If geminates were sequences of two identical segments rather than a single monolithic segment, their behavior with regard to palatalization would be inexplicable. However, if geminates are single units, this pattern is unsurprising.

Additional evidence that suggests CG geminates are single segments comes from phonotactic restrictions in the language. Specifically, stop clusters are mostly absent from the inventory of the language. Newton 1972 shows that the only stop cluster allowed in native Cypriot words is /pk̬/, but that all examples of this cluster are historically derived from /pi/ or /py/ sequences.

(3)   pk̬anno   'I take'
        kupk̬a   'oars'
        pk̬aton   'plate'
Newton (1972)   /pi/, /py/ > /pk̬/

Patterns exhibited in morpheme concatenation also indicate that stop clusters are dispreferred in CG. Specifically, when stems with final stops precede the perfective past suffix /-tin/, the stop is lenited, as demonstrated in (4). If the stem-final segment were unaltered, a stop cluster would result as indicated in the starred examples. The lenition process only occurs in this environment and thus it is assumed that it is the result of a general prohibition against clusters of this type.

(4)   Stem-final consonant alternation[1]

Proposed stem	(Newton 1972)	gloss	Perfective past passive /-tin/	
/vlap/		'hurt'	efláftin	*efláptin
/pemp/		'send'	epéftin	*epéptin
/sfank̬/		'slaughter'	esfáxtin	*esfáktin

cf.   /sfank̬/ + perfective past active suffix /sen/ →   esfáksin *esfáxsin

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[1] The second and third examples also illustrate the deletion of nasals in tri-consonantal clusters, a process which is independent of lenition but which will be described in more depth later in the paper.

It is crucial to note that there are no processes which lenite the initial part of a geminate consonant, demonstrating that geminates do exhibit behavior unlike clusters:

(5) /mutti/ → [mútti] 'nose' *muθti
     /ppara/→ [ppará] 'money' *fpara

If geminates were taken to be sequences of identical segments, the patterns described above would be difficult to explain, since a 'cluster' of stops such as /p/ /p/ is allowed, while a cluster such as /p/ /t/ is not. However, if it is assumed that geminates are single segments, these patterns become clear. Stop clusters are avoided; geminates are unaffected by this prohibition because they are single segments and not real clusters.

2.3 GEMINATES PATTERNING AS CONSONANT CLUSTERS

While geminates behave as single segments for some processes, they also pattern like consonant clusters for others. A clear example comes from the process of final nasal deletion across word boundaries.

As demonstrated in the examples below, the final nasal consonant of the articles /tin/ and /ton/ surfaces unaffected when followed by a word that begins with a vowel or a single consonant[2]. As illustrated in (b), when the second word has an initial geminate consonant, the nasal is deleted. Similarly, when the second word begins with an onset cluster, the nasal may also be deleted, as shown in (c). However, as demonstrated by the examples in (d), the nasal is not deleted before all types of word-initial consonant clusters. Specifically, the clusters that do not trigger deletion consist of stops followed by liquids.

(6) Nasal deletion

a. ton ápparon   'the horse'   *to ápparon
    ton tíxon   'the wall'   *to tíxon
    tin petterá   'the mother-in-law' *ti petterá

b. ti kkellén   'the head'   *tin kkellén
    to ppará   'the money'   *ton ppará
    to ttavá   'the stew'   *ton ttavá

c. ti psačin   'the poison'   *tin psačin
    ti ksilopaúra   'the hedge'   *tin ksilopaúra
    to flokkón   'the mop'   *ton flokkón
    ti ðromolakšás   'the ditch'   *tin ðromolakšás

---

[2] Coda nasals undergo place assimilation, a process that is independent of the deletion process to be described here. The point remains that the nasal is not deleted.

d.	tin krémma	'the cream'	*ti krémma
	tin klátsa	'the sock'	*ti klátsa
	ton traóullo	'the billy goat'	*to traóullo
	ton prúnzo	'the bronze'	*to prúnzo
	ton platáno	'the tree'	*to platáno

2.4 SUMMARY

The geminates of CG exhibit dual patterning that is typical of geminates cross-linguistically. With regard to palatalization, geminates act like single segments, since they are completely palatalized in the correct environment, unlike clusters in which only the second member of the cluster is affected by the process. At the same time, geminates also pattern with some consonant clusters in that they trigger final nasal deletion across word boundaries. Accounting for these apparently conflicting facts is at the core of the analysis presented here.

3. ACCOUNTING FOR THE FACTS

The dichotomous pattern exhibited by CG geminates is accounted for in similar but not identical ways under all modern prosodic frameworks. Specifically, the dual patterning of geminates is accounted for by the assumption that these segments comprise a single root node that is multiply linked to two prosodic positions. As demonstrated below, Hayes' moraic theory (1989) posits that a geminate is a root node which is linked to a mora (an abstract unit of prosodic weight) and to a syllable node. Crucially, the mora is linked to a preceding syllable, and constitutes part of the coda. Earlier frameworks, such as those outlined in Clements and Keyser 1983 and Levin 1985, assume that a geminate is a root node linked to two abstract timing units, which in turn may be linked to syllable nodes. Unlike moraic theory, there is no restriction on where the 'parts' of the geminate can be linked.

(7)   Representation of geminates

Moraic theory (Hayes 1989)   Segmental theory (e.g. Clements and Keyser 1983)

σ   σ   σ   σ
| / | |
μ /   C __ C   ← timing slots
[root]   [root]
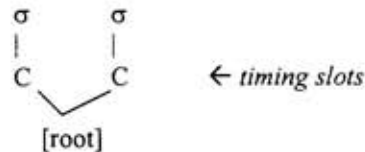
There is a substantial amount of evidence indicating that timing units such as C-slots are superfluous, and that a framework such as Hayes' moraic theory is capable of describing and predicting all prosodic processes (see McCarthy and Prince 1995 for examples and discussion). However, as will be shown, the earlier segmental approach

allows for a more straightforward and explanatory account of the behavior of geminates in CG.

3.1 BACKGROUND ASSUMPTIONS

The account of CG presented below follows the assumptions of Clements and Keyser 1983, in which consonants are typically dominated by C timing slots and vowels are usually dominated by V timing slots[3]. As shown in (8), a geminate in CV theory is similar to a single consonant in that it has a single root node, and is similar to a consonant cluster in that it occupies two C-slots. It is these structural parallels which allow for a unified account of the geminates in this language.

(8) CV theory (Clements and Keyser 1983)
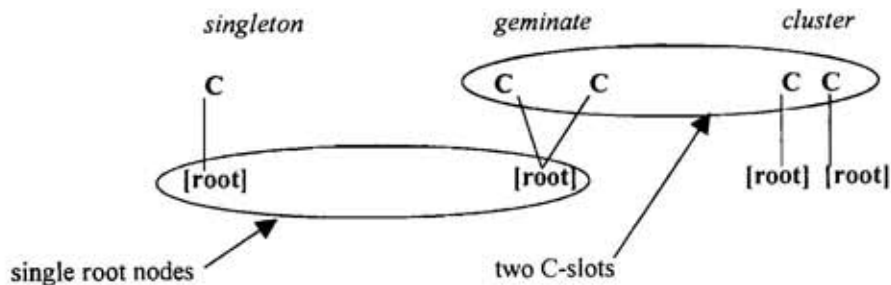
The formal analysis of CG will be presented within Optimality Theory, a constraint-based framework (Prince and Smolensky 1993, McCarthy and Prince 1995). In this framework, multiple potential surface forms are evaluated by a set of universal constraints that have a language-specific ranking.

3.2 PALATALIZATION AND THE CV FRAMEWORK

An account of the palatalization process is straightforward in the CV framework. Recall that single and geminate segments are palatalized before the vowel /i/, while only the second member of a consonant cluster is affected, as repeated below, from (2a).

(9)　　kakós　'bad (masc. sg.)'　　　kačí　'bad (fem. sg.)'

　　　　sákkos　'jacket (nom.sg.)'　　sáčči　'jacket (nom. pl.)'

cf.　　péfkos 'pine tree (nom. sg.)'　péfči　'pine tree (nom. pl.)' *pečči

---

[3] While the generalizations afforded by Levin's 1985 framework, in which all segments are dominated by a generic X timing slot, are important, the CV framework is adopted for ease of exposition. Both frameworks can describe the facts equally well, under the assumptions that 'C-slot' is functionally equivalent to 'X-slot that dominates a root node with consonantal features' .

Under the assumption that geminates have a single root node and thus are single segments, the process can be described as the palatalization of the segment immediately preceding the vowel /i/, as graphically demonstrated below. Here, as throughout the paper, the root nodes are represented as phonetic symbols in prosodic representations.

(10)   Palatalization:
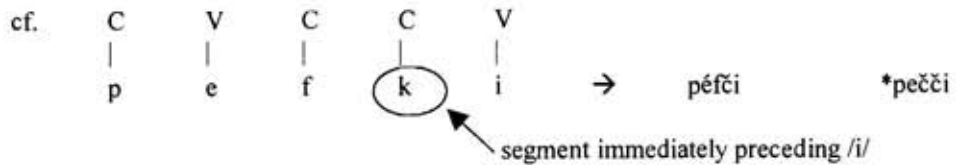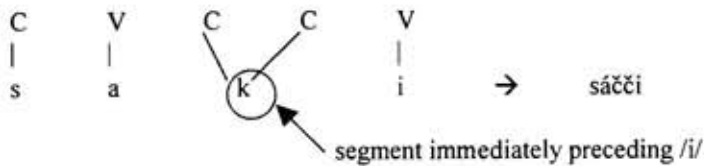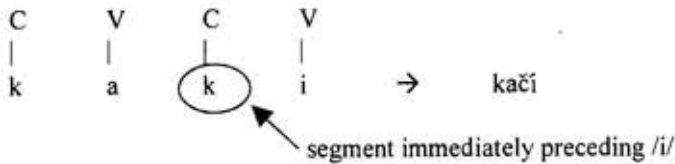
This generalization can be expressed as below. It is assumed that this prohibition against sequences of dorsals and front vowels operates on the root node level; since geminates and singletons are both single root nodes, they are expected to pattern in the same manner.

(11)   *[ki]   Root node sequences of [k] and [i] are prohibited

Since no [ki] sequences are observed in CG, it is safe to assume that this constraint is undominated in this language. Additionally, since an underlying non-palatal consonant may surface as a palatal, it is also safe to assume that a constraint such as FAITH, which prohibits featural changes, is lowly ranked. This is demonstrated in the following tableau. Here, the winning candidate (a) is selected because it only violates the relatively lowly-ranked FAITH constraint. This violation is incurred because the underlying segment /k/ is realized as [č] on the surface. Candidate (b) does not incur a violation of FAITH because there have been no changes to the underlying segments. However, this form violates the more highly ranked constraint against sequences of [k] and [i]. Thus, it is rejected.

(12)   Palatalization *input: /kak-/ 'bad (root)' + /-i/ 'fem. sg. adj. suffix'* → [kači]

/kak + i/	*[ki]	FAITH
☞ a. kači		*
b. kaki	*!	

A form with a geminate consonant is evaluated in exactly the same manner as a singleton, as shown below. Recall that since a geminate consists of a single root node, it is entirely affected by the palatalization process. Since the root node cannot be split, there is no candidate in which the candidate is 'half' palatalized, such as *sakči.

(13)   *input: /sakk-/ 'jacket (root)' + /-i/ (nom. pl. suffix)* → sáčči

/sakk+ i/	*[ki]	FAITH
☞ a. sačči		*
b. sakki	*!	

Forms with consonant clusters are also correctly predicted by the constraints that have been proposed. As demonstrated below, candidate (a), in which only the segment immediately preceding /i/ is palatalized, is chosen. Candidate (b) violates the constraint against sequences of [ki]. Candidate (c), in which both of the segments of the cluster have been palatalized, is compared unfavorably to the winning candidate. This is because in (d), two underlying segments have been changed in the surface form, while in (a), only one segment of the cluster has been affected.

(14)   *input: /pefk-/ 'pine tree (root)' + /-i/ (nom. pl. suffix)* → péfči

/pefk + i/	*[ki]	FAITH
☞ a. pefči		*
b. pefki	*!	
c. pečči		*!*

In summary, the behavior of geminates with regard to palatalization in CG are accounted for in a straightforward manner: only the segment immediately preceding the vowel /i/ is affected. Since geminates comprise a single root node and thus are single segments, they behave as such for this process, and not as consonant clusters.

3.3   NASAL DELETION IN THE CV FRAMEWORK

The behavior of geminate consonants with regard to nasal deletion is also explicable within the CV framework of representation. Recall that geminates and some consonant clusters trigger deletion of a preceding word-final nasal. Following the analysis presented in Malikouti-Drachman (1987), it is assumed that nasal deletion occurs because of restrictions on syllable structure in CG. Specifically, complex onsets are dispreferred in this language, unless the onset consists of a stop followed by a liquid. Furthermore, while coda consonants are allowed, coda clusters are entirely prohibited. The interaction of these two restrictions leads to deletion of the final nasal, as demonstrated below.

The prohibition against coda clusters is observed language-wide. There are no words that end in more than one consonant, and in the event of a sequence three consonants, such as across the word boundary of *ton prunzo* 'the bronze', the segments are always syllabified by speakers as a single coda and a complex onset: [ton.prun.zo], not *[tonp.run.zo]. The formal expression of this prohibition is shown below:

(15)   *CC]$_\sigma$ Consonant clusters in syllable codas are prohibited

Unlike the prohibition against coda clusters, the restriction on complex syllable onsets is not categorical, since it appears that some, but not all, clusters are allowed in onsets. Drawing on the facts of nasal deletion, it can be seen that stop + liquid clusters do not trigger deletion, while all other clusters do. As demonstrated below, the deletion-triggering onsets are syllabified as single coda + onset sequences, rather than as complex onsets.

(16)   Deletion: tin + psačin   [tip.sa.čin] 'the poison'   *[tin.psa.čin]
                        ton + flokkon   [tof.lok.kon] 'the mop'   *[ton.flok.kon]

        No Deletion   tin + kremma   [tin.krem.ma] 'the cream'
                        tin + klatsa   [tin.klat.sa]   'the sock'

The clusters that trigger deletion are thus not allowable as syllable onsets[4]. To define this class of clusters, the concept of relative sonority is drawn on. It appears that the crucial factor that determines whether an onset triggers deletion or not is the sonority of the segments involved: stop + liquid sequences do not trigger deletion, while all others do. Presented below is a modified sonority scale, based on concepts presented in Zec (1995) and references therein. Each segment class is assigned a numerical sonority value indicating their relative sonority value: stops have a value of 1, as they are less sonorous than liquids.

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[4] Except in absolute phrase initial position. In this environment, I follow Malikouti-Drachman in assuming that the first segment of an absolute initial cluster is extrametrical and thus not subject to the restrictions on onsets.

(17)   Relative sonority scale (following Zec 1995 *inter alia*)

less sonorous   ←————————————————————————→   *more sonorous*
Sonority value: 1   2   3
   stops   fricatives   liquids
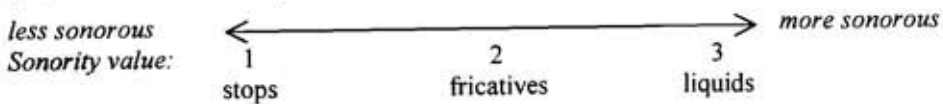
In terms of sonority values, the onsets that trigger deletion can be defined simply. The onset clusters that do not trigger deletion all have a sonority value ratio of 1:3 (stops and liquids). The clusters that trigger deletion have a smaller ratio:

(18)   Sonority ratio for onset clusters:

Do not trigger deletion	ratio	Trigger deletion	ratio
kr	1:3	ks	1:2
kl	1:3	ps	1:2
tr	1:3	fl	2:3
pl	1:3	ðr	2:3

Under the assumption that geminates are comprised of two C slots, the fact that they pattern like some consonant clusters in triggering deletion is entirely expected: the two Cs have the same sonority value (since they are linked to the same root node), as illustrated below. Naturally, the two C slots have a sonority ratio value of less than 1:3 and so are expected to trigger deletion.

(19)   Sonority ratio for geminates:

C_i C_j sonority value of C_i= 1; sonority value of C_j = 1
  \   /
  [p:]   ratio: 1:1
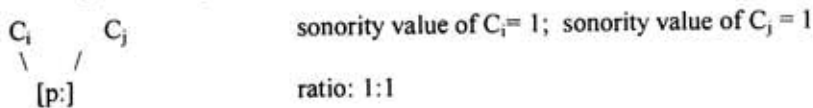
A constraint that captures the generalization about relative sonority values and onset restrictions is found in (20). Essentially, this constraint prohibits complex syllable onsets that do not have the desired 1:3 sonority ratio. Since deletion occurs, it is assumed that this onset constraint dominates MAX, a prohibition against segment deletion.

(20) $*_{\sigma}[C_iC_j$ Onset sequences in which the sonority ratio of C_iC_j is less than 1:3 are prohibited

       MAX   No deletion

As demonstrated in the following tableaux, the combination of these constraints leads to final nasal deletion before all complex onsets except those consisting of a stop + liquid combination.

In tableau (i), a form with a stop + liquid onset cluster is evaluated. The winning candidate does not incur any violations. Candidate (b) violates the constraint against coda

clusters, since the nasal and the /k/ are syllabified as the syllable coda. Candidate (c), in which the nasal has been unnecessarily deleted, incurs a violation of MAX.

In tableau (ii), a word with a deletion-triggering onset is evaluated. The winning candidate (a) incurs a violation of the MAX constraint, since the nasal has been deleted. However, this is a necessary violation, since the other candidates incur violations of more highly ranked constraints. In (b), the /ps/ cluster is syllabified as an onset, violating the sonority ratio constraint, while candidate (c) violates the coda cluster constraint.

Tableau (iii) evaluates a form with an initial geminate. The winning candidate incurs a violation of MAX, since the nasal is deleted. As in the previous tableau, the other options incur violations of more highly ranked constraints.

(21)   i. no deletion

/tin + klatsa/	$*_\sigma[C_iC_j$	$*CC]_\sigma$	MAX
a. ☞ tin.klat.sa			
b. tink.lat.sa		*!	
c. tik.lat.sa			*!

ii. deletion before cluster

/tin + psačin/	$*_\sigma[C_iC_j$	$*CC]_\sigma$	MAX
☞ a. tip.sa.čin			*
b. tin.psa.čin	*!		
c. tinp.sa.čin		*!	

iii. deletion before geminate

/ton + ppara/	$*_\sigma[C_iC_j$	$*CC]_\sigma$	MAX
☞ a. top.para			*
b. ton.ppara	*!		
c. tonp.para		*!	

In conclusion, the preceding analysis demonstrates that in the CV framework, the facts of nasal deletion can be described in a unified manner. While it is a group of constraints that conspire to result in deletion, both geminates and certain consonant clusters pattern alike for the same reason: they each consist of two C slots. As will be demonstrated later, this parallel structure is crucial in developing a unified account.

3.4   ACCOUNTING FOR CG IN MORAIC THEORY

Moraic theory (1989) cannot account for CG in as elegant a manner because under this framework, geminates and consonant clusters may be represented in different manners. As demonstrated in the first row of the table below, in CV theory geminates and clusters have the same representation regardless of their environment in the word. In each case, both the geminate and the cluster comprise a sequence of two C-slots.

(22)

The representations under moraic theory are not as consistent.   Recall that geminates are assumed to be inherently moraic, and so bear a mora in all environments. Other consonants may be assigned a mora, but only in syllable codas As shown in the moraic representation of a medial cluster, (μ) indicates a mora that has been assigned to a coda consonant. Thus, word-medial geminates and consonant clusters may have a similar representation, in that both contribute prosodic weight to the preceding syllable. It is in word-initial position that the representation of geminates and clusters crucially differs under moraic theory. While the geminate bears a mora, the cluster cannot since there is no process which would result in the assigning of a mora to an initial segment.

The two theories are similar in that both assume that geminates are single root nodes. Thus, the account of palatalization is identical in both CV theory as well as moraic theory. Essentially, the root node immediately preceding the triggering vowel is subject to palatalization. However, the lack of parallel structure between initial geminates and clusters in moraic theory means that there is no way to account for a process such as nasal deletion in a unified manner.

For example, it is possible to assume that the sonority/onset constraint described earlier motivates deletion before consonant clusters (with minor revisions, so that the constraint targets root nodes with certain sonority features, not C-slots). Just as in the CV analysis, when this constraint dominates the prohibition against deletion, final nasal deletion before clusters is predicted, as demonstrated in the sample tableau.

(23)   Deletion before consonant clusters in moraic theory:

$*_\sigma[[rt]_i[rt]_j$ Onsets that begin with two root nodes, in which the sonority ratio of the root nodes is less than 1:3, are prohibited.

/tin + psačin/	$*_\sigma[[rt]_i[rt]_j$	MAX
☞ a. ti psačin		*
c. tin psačin	*!	

Naturally, the same constraint will not predict deletion before geminates, since geminates comprise a single root node. In fact, there is no constraint that can predict deletion before both geminates and clusters, since they have fundamentally different structures in moraic theory. Thus, it is necessary to posit an independent constraint to account for geminate-triggered deletion.

As has already been established, coda clusters are prohibited, and thus syllabifying the geminate as part of a coda is unacceptable: *tonp.para. It is assumed that the cross-linguistic prohibition against moraic onsets prohibits syllabification of the geminate in the onset of the syllable: *ton.ppara. Thus, it is posited that deletion occurs to allow for accommodation of the mora. The constraint that drives this deletion is:

(24)   *Moraic onset   Moraic onsets are prohibited

The appropriate ranking of this constraint, along with the syllabification and deletion constraints, accounts for deletion before initial geminate consonants, as shown in the following tableau. Here the form that exhibits deletion wins because the initial part of the geminate (the part with the mora) is in the syllable coda. In (b), the entire geminate is in the onset, violating the constraint against moraic onsets.

(25)

/ton + ppara/	*Moraic onset	MAX
a. ☞ top.para		*
b. ton.ppara	*!	

Thus, it is possible to account for the pattern of nasal deletion while maintaining the assumptions of moraic theory. However, two different principles must be posited to account

for the process. In the case of deletion before geminates, the triggering environment is defined in prosodic terms: nasals are deleted before moraic consonants. In the other case of deletion, the triggering environment is defined in melodic terms: nasals are deleted before sequences that have a certain relative sonority.

In addition to the fact that there are two independent processes driving deletion, it is important to note that in order to derive the correct effect, both the constraint against moraic onsets and the constraint against complex onsets with low sonority ratios must be undominated: $*_\sigma[[rt]_i[rt]_j$ and *Moraic onset dominate all else. It is only with this particular ranking that geminates and clusters pattern alike. Since constraints may have different rankings in different languages, the following ranking is possible:

(26) $*_\sigma[[rt]_i[rt]_j$ >>   MAX   >>   *Moraic onset

This ranking predicts a language in which onset clusters trigger deletion, while onset geminates do not. Since geminates and clusters are observed to pattern alike cross-linguistically, this prediction appears to be incorrect and thus presents a serious problem for the moraic theory framework.

4.   CONCLUSION

As was demonstrated, there is a fundamental difference in how CV theory and moraic theory account for final nasal deletion. In the segmental approach, deletion occurs before two C slots that have a certain sonority contour. Both geminates and clusters fit this description, and so are predicted to pattern alike. In the moraic framework, it is necessary to posit two independent constraints that lead to nasal deletion, because consonant clusters and geminates have different prosodic representations in this theory. Thus it is concluded that the CV framework provides a superior account of CG.

It is important to note that the discrepancy between these two theories is revealed only by investigating the behavior of clusters and geminates in word-initial position, because it is only in this environment that the frameworks diverge with regard to the representation of geminates and clusters (as was demonstrated in the chart comparing the representations of the two frameworks). Therefore, it is apparent the investigation of a language such as Cypriot Greek is crucial to our understanding of phonological structure.

It is also important to note that while it is possible to posit constraints that account for final nasal deletion within a moraic framework, these constraints are independent of each other, and so it is only via stipulation that the constraints work together to result in deletion before both geminates and clusters. As was shown, a simple re-ranking of the constraints results in an unattested situation in which geminates and clusters do not pattern alike. Within the CV framework however, there is a single constraint that targets CC sequences, thus affecting both geminates and clusters. Thus, there is no ranking that would result in an unattested situation: in every case, the geminates will behave as clusters do. Since geminates and clusters pattern alike cross-linguistically, this appears to be a favorable aspect of this framework.

Although a segmental framework is demonstrated to be superior in predicting the behavior of word-initial geminates and clusters in CG, it is not suggested that moraic theory be rejected altogether. The insights afforded by this theory, specifically with regard to weight-based prosodic processes are fundamental to our understanding of phonology. Furthermore, the ability of moraic theory to predict prosodic processes (such as compensatory lengthening) cannot be duplicated by a segmental framework, as discussed in Hayes (1989). Conversely however, the results of the analysis of CG imply that timing units such as C-slots also play a crucial role in phonological processes that cannot be duplicated by moraic structure, a finding also supported by languages such as Leti (Hume, Muller and van Engelenhoven 1997). Since neither framework can subsume the other, it is suggested that the basic components of both play a fundamental role in phonological representation.

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A SURVEY OF MODERN GREEK DIALECTAL COMPLEMENTATION*

Abstract

This survey concentrates on the semantic factors subject to cross-dialectal variation in the distribution of complementiser-που. The Standard Modern Greek constraint that που-complements be factive is violated in six distinct dialects (Italiot, Corfiot, Tsakonian, Western Macedonian, Thracian, Livisiot)—which have developed completely autonomously from each other; in only one instance (Western Macedonian) can linguistic contact serve as an explanation. The constraint that που-complements be stative is likewise violated in two dialects (Italiot, Corfiot).

Three issues of theoretical interest arise from these findings. First, on the available evidence the dialects themselves are inhomogeneous in their distribution of που. This indicates that linguistic change in complementiser distribution normally occurs piecemeal, akin to lexical diffusion; while analogical levelling completes the process, one may find instances where the process remains incomplete. Second, not all semantic factors are equal: που is constrained most frequently by Information Modality, less frequently by Evaluation Modality, and least frequently by Semantic Clas (after Ransom 1986). This implies a hierarchy of salience of these semantic factors. Lastly, diachronic developments are contingent realities, and cannot be outright predicted; it may be argued that the Mainland Greek (= Standard Greek) distribution of που, if anything, is the oddity in the account.

1. Standard Modern Greek Distribution

Modern Greek complementation is based on two paradigmatic oppositions: that between πως/οτι and να, and that between που and πως/οτι. The former distinction appears reasonably straightforward (*grosso modo* realis/irrealis), and the distribution of να has drawn relatively little comment.[1] Likewise, while there are other complementisers available in Standard Greek and Greek dialects,[2] they have not drawn much discussion in the literature, though their distribution is in some cases involved (but see Delveroudi 1994 on και.)

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[1]The exception has been the dubitative stative use of να after weak assertives, e.g. πιστεύω να, νομίζω να. See for instance Christidis (1982).

[2]Standard Greek: και and —. Amongst the dialects of Greek, Apulian Italiot has *ca* (borrowed from Italian dialect), Anatolian Greek has το (ντο/του), Pharasiot has κι (borrowed

The distribution of που, on the other hand, has attracted considerable discussion in the literature. Though it is clear that που is marked against πως/ότι as a realis complementiser, it has proven surprisingly difficult to characterise semantically the distinction between the two in the paradigm:

e.g.　Χαίρομαι που ήρθε/* Χαίρομαι πως ήρθε　　'glad'
　　　Θυμάμαι που ήρθε/ Θυμάμαι πως ήρθε　　　'remember'
　　　(Το) Ξέρω που ήρθε/Ξέρω πως ήρθε　　　　'know'
　　　??Λέω　που ήρθε /Λέω　πως ήρθε　　　　　'say'
　　　*Νομίζω που ήρθε /Νομίζω πως ήρθε　　　'think'

It has been a commonplace of Modern Greek linguistics since Christidis (1981) to describe the distribution of the realis complementisers που and πως in terms of factivity. In broad terms, it has been found that in Contemporary Standard Modern Greek (CSMG), που is obligatory following true factive predicates (Kiparsky & Kiparsky 1971), such as χαίρομαι, and πως/ότι is obligatory following non-factive predicates, such as νομίζω. For the predicates Kiparsky & Kiparsky term semi-factive (i.e. whose factivity is defeasible under certain syntactic conditions), που is marked as a complementiser, while πως/ότι is unmarked.

What που is marked for after semi-factives is what has proven so elusive to pin down. There have been two trends in the literature:

> (1) The distinction is in terms of truth valuation/assertivity: a sentence containing πως/ότι makes distinct complement (fact) assertion and matrix assertions, while που 'presupposes' the truth of its (event) complement, and does not assert it as a claim distinct from the matrix. (Christidis 1981; Svalberg 1992; Ginzburg & Kolliakou 1997 [1995])
> (2) The distinction is in terms of givenness/theme: a πως/ότι-complement is foregrounded in discourse, whereas a που-complement is backgrounded, or alternatively constitutes a discourse theme. (Kakouriotis 1982; Delveroudi, Tsamadou & Vassilaki 1994 [1993]; Varlokosta 1994)

The difficulty in determining the distribution of complementiser-που in CSMG has led to speculation on the diachronic processes that have led to it. This speculation has been couched in the more general terms of the major paradigmatic opposition involving που in Greek: που versus να. Christidis (1986) and Papadopoulou (1994) have characterised this opposition in terms of a metaphoricist grammaticalisation account: they argue that the modern range of meanings που and να have taken in the language originates in their etymologies. In particular, να is held to originate in a directional relativiser;[3] accordingly, Christidis and Papadopoulou claim, its modern meanings metaphorically extend direction-

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from Turkish), and Tsakonian and Calabrian Italiot retain use of the supplementary participle.

[3]As I argue in my dissertation (Nicholas 1998 Chapter 5), this claim is not borne out by the linguistic evidence; the directional sense of ίνα is secondary.

ality in space to irrealis in the world. Similarly που originates in the static locative όπου; its modern meanings are thus characterised by a metaphorical extension from stationarity in space to givenness in discourse.

As I have argued in my dissertation (Nicholas 1998), the diachronic data does not support this view of the development of που. But diachrony is not the only challenge to this view. A source of data has hitherto ignored in investigating the semantics of που is the distribution of complementiser-που in the dialects of Modern Greek, which has not been surveyed until now. As becomes clear from the Modern Greek dialectal data, the Standard Modern Greek distribution of complementiser-που was by no means the only possible outcome, and should not be regarded as in some way privileged.

2. Semantic Factor Analysis

By contrast to the often fine semantic judgements invoked in CSMG studies on complementisers, the attrition of Modern Greek dialects means that a survey of dialectal complementation can only be undertaken based on written sources. As a result, a survey can only rely on factors readily discernable from printed texts: in the first instance the matrix predicate of the complementiser, and to a lesser extent the polarity of the complement, and whether it presents new or given information. As it turns out, the disparity in distribution between CSMG and several dialects is great enough that such a restricted approach can still unearth a wealth of information.

Relying on matrix predicates to describe the distribution of που-complements means that a survey needs to posit a vector space classifying those predicates, in order to allow the distribution of που to be classified objectively. The scheme used here follows Ransom (1986), and uses a vector space consisting of three dimensions: *Semantic Class* (the semantic domain of the predicate), *Evaluation Modality* (how strongly the validity of the complement is held), and *Information Modality* (the ontology of the complement):

SEMANTIC CLASS:	Emotive	e.g. χαίρομαι 'glad'
	Physical/Cognitive	e.g. ξέρω 'know'
		e.g. βλέπω 'see'
	Linguistic	e.g. λέω 'say'
EVALUATION MODALITY:	Predetermined	e.g. ξέρω 'know'
	Determined: Strongly Asserted[4]	e.g. βέβαιος 'certain'
	Determined: Weakly Asserted	e.g. νομίζω 'think'
	Undetermined:	e.g. ελπίζω 'hope'
	Indeterminate:	e.g. απορώ 'wonder'

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[4] I have introduced *assertivity* (Hooper 1975) into the Evaluation Modality cline, as a semantic cline commensurable with it for Determined predicates.

INFORMATION MODALITY:[5]	Truth	e.g. ξέρω 'know'
	Future Truth	e.g. προβλέπω 'predict'
	Occurrence	e.g. βλέπω 'see'
	Action	e.g. αρχίζω 'begin'

The terms in which complementiser distinctions have been traditionally discussed can be readily translated into this framework. Factivity corresponds to *Predetermined* Evaluation Modality (the complement is always valid) and *truth* information modality (the complement is always a fact); true factives are *Cmotive*, while semi-factives are *Cognitive-Physical*. With the semantic factors made explicit, it is possible to describe the distribution of complementisers in terms of this vector space. The following three-dimensional charts plot the distribution of που and of ότι/πως in terms of the matrix predicates they follow; dark squares indicate normal use, while lightly shaded squares indicate marked or atypical use:[6]
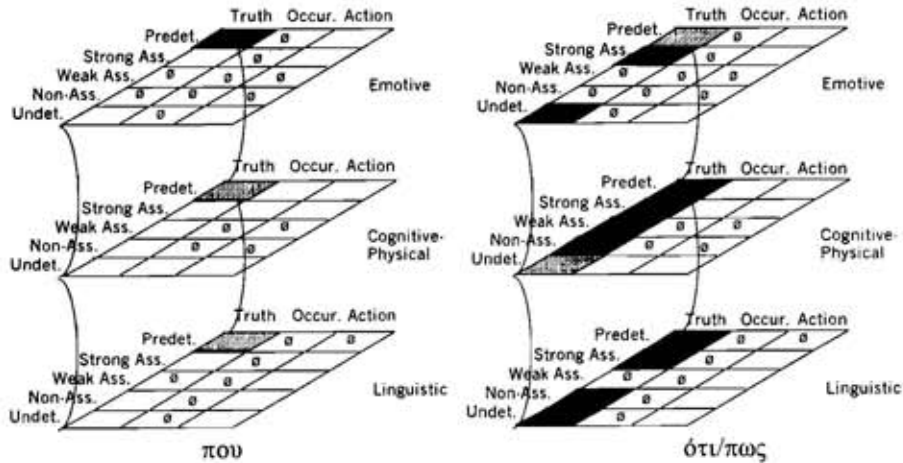
As this presentation shows, που is:

- near-obligatory for Emotive Predetermined Truth (true factives)—though as it turns out, less so for subject complements (*appraisals*, using Ransom's (1986) terminology) than object complements (*reactions*), as already noted by Christidis (1981);
- marked for Cognitive-Physical Predetermined Truth (semi-factives);
- marginal for Linguistic Predetermined Truth;
- disallowed for any other evaluation or information modality.

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[5]*Truth* complements are stative, and may be considered facts. *Occurrence* and *Action* complements are non-stative, and may be considered events; Action complements are additionally volitional.

[6]The classification of CSMG predicates is undertaken at some length in Nicholas (1998 Chapter 4); a similar survey appears in Papadopoulou (1994:142–189).

These trends are borne out by investigation of CSMG texts. As an instance of this, I have analysed (Nicholas 1998 Appendix C.1) the complement-taking predicates in *To Τρίτο Στεφάνι* (Tahtsis 1971 [1963]), a representative CSMG text, inasmuch as it is avoids the ruralism of much Greek twentieth-century prose. The extent of που is as predicted: it occurs with 85% of true factives, 3% of semi-factives, and 0% in linguistic predetermined truth and any other modalities.

It is possible to refine the semantic categories: που occurs after 93% of Emotive Predetermined Truth Reactions, but only 69% of Emotive Predetermined Truth Appraisals. Furthermore, Physical (perception) and Cognitive semi-factives behave differently: που occurs 7% of the time for the former (indicating direct rather than indirect perception), but only 2.4% for the latter. Cognitive semi-factives can be subdivided yet further; as noted by linguists from Christidis (1981) on, static knowledge predicates allow που-complements (1.6% in *To Τρίτο Στεφάνι*), while knowledge acquisition (learning) predicates do not (0%). The following chart plots the relative preponderance of που versus ότι/πως complements for the various established semantic categories of matrix predicates.

| Emotive Reaction Truth | Emotive Appraisal Truth | Perception Truth | Cognitive Static Truth | Linguistic Truth | Cognitive Knowledge Acq. Truth |

| 100 | 96-99 | 81-95 | 66-80 | 51-65 |
| 36-50 | 21-35 | 6-20 | 1-5 | 0 |
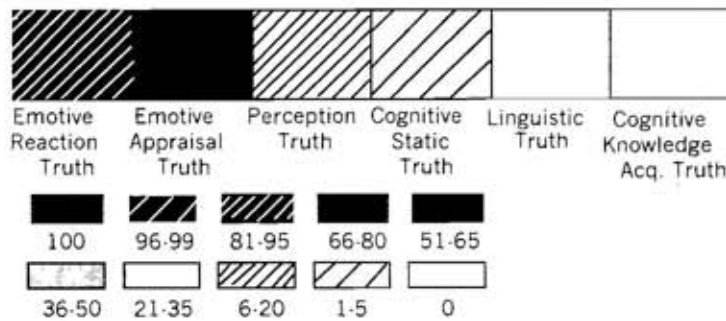
Given this framework, we can now attempt to apply it to Modern Greek dialect data.

3. Dialect Survey
The areas in the Greek-speaking world in which significant deviation from CSMG complementation is to be noted are plotted in Map 1. As can be seen, the map includes the 'usual suspects', the outlier dialects of Greek, including Pontic, Italiot, and Tsakonian. But it also includes quite mainstream dialects of Greek: Thracian (including Bithynia and islands of the North-East Aegean), Western Macedonian, and Corfiot.

Deviation from the CSMG norms of που-complementation can be described as the expansion in extent of που-complements along all three semantic axes posited by Ransom.

Map 1. Regions of deviant πou-complementation.

3.1. Spread in Evaluation Modality

Weak assertive που-complements, which are disallowed in CSMG, are to be found in Thracian, Western Macedonian, Corfiot, Livisiot, and Italiot (1 instance in my corpus). For example:

(1a)   Βρωμάει η κούκος, νομίζει *που* βρωμά η φωλιά δου
         The cuckoo stinks, he thinks *that* it's his nest that stinks (HDMS
         1065:145; Palladari, Bithynia)

Semi-factive που is found used in broader contexts than is allowed in CSMG. For example, που occurs before cognitive complements not only not presupposed or given, but in fact known to be false (2a); and introducing complements of indirect perception predicates (2b). This spread occurs in the following dialects: Thracian, Western Macedonian, Corfiot, Livisiot, Italiot, and Tsakonian:

(1b)
         Αφού μάς έδειξαν *που* πρέπει να καταφρονούμε του πατέρα μας τη γ
         λώσσα, είτανε συνέπεια να καταφρονήσουμε και τον πατέρα
         τον ίδιο που τη μιλεί.
         Since they have shown us *that* we should have contempt for our father's
         language, it was only natural that we should also have contempt for our
         father who speaks it. (Psichari 1987 [1888]:120; Constantinople)

(1c)   Έκουσαμ *βου* χοιρόσβαξαν, κι ιπήρασ σούβλις κι έτρεξαν.
         They heard *that* they'd slaughtered pigs, and they took spits and ran
         (Mouseou-Bouyoukou 1961 §1125; Livisi)

3.2. Spread in Semantic Class

Linguistic που-complements are at best marginal in CSMG (?Σου το είπα που θα έρθω). However they turn up, with varying degrees of frequency in Thracian, Corfiot, Livisiot, Western Macedonian, Italiot (1 instance in my corpus), and possibly also Tsakonian (my only example is a dictionary entry). Note that while Linguistic που-complements in CSMG are restricted to given, topicalised contexts, this does not obtain with the dialectal data; as with semi-factives, the που-complement may even be false:

(2)   Μη ματασκιαχτής, όδας ματαπεράσης βωρέ κουτέ, τι ψέματα λένε

        πο υ βρικολάκιασε ο γέρο Ντίος.

        Don't you get scared when you pass by again, you fool, because they're
        lying saying ***that*** old man Dios turned vampire. (HDMS 817:286; Othoni,
        near Corfu)

The proportion of Linguistic που–complements varies greatly even within the single dialect of Thracian. Though my corpus was unsatisfactorily small, it still yielded surprising variability. The proportions I found of linguistic που-complements to combined linguistic που- and πως/ότι-complements were:

- 100% in Kouvouklia (Bithynia) (Deliyannis 1940) [corpus contained 4 Linguistic complements]
- 100% in Saranda Ekklisies (Psaltes 1905) [4 predicates]
- 93% in Psichari (1975 [1901]—written in 1886) [56 predicates]
- 35% in Cavafy (1975) [17 predicates]
- 43% in Lemnos (Kontonatsiou 1989) [28 predicates]
- 12% in Marmara (HDMS 756) [26 predicates]

The proportion of Linguistic που-complements is likely to be sensitive to many factors, not least of which is the subject matter under discussion. Nonetheless, this inhomogeneity within a relatively small geographical area suggests that there has been something akin to lexical diffusion (McMahon 1994:50–56) at work underlying the distribution of complementiser-που: που spread from context to context following linguistic predicates at different rates in various locales within the broader Thracian area. The effects of such diffusion in most paradigms που is used in would have been smoothed over in most dialects through analogical levelling (Harris & Campbell 1995:77); this process does not appear to have run to completion in Thracian.

3.3. Spread in Information Modality

Change along the third axis is rather more infrequent in Greek: Occurence and Action που-complements are certain only in Italiot (14 instances in my corpus), with a dubious instance also in my Corfiot corpus:

(3a)   *oles ttes tenne kkànnonta,/* larga *a'tti Kkalimèra,/ èftasa **pu** 'in essiànosa/*
ti χχari ttu Teù.
*facendo tutti i mestieri/ lontano da Calimera,/ perveni **a mettere** insieme/*
la grazia di Dio.
Doing all sorts of jobs, far from Calimera, I managed *to* bring together
God's grace. (Palumbo 1971:169; Calimera, Apulia)

In CSMG, of course, this would be expressed not with πως, but with να: κατάφερα
να περιμαζέψω τις χάρες του Θεού. (In English likewise the predicate takes an infinitival
rather than a *that*-complement.) For που to displace να rather than πως as a
complementiser is startling, and a development quite different in nature to those considered
above.

There is also a syntactic phenomenon in which που occurs routinely with Italiot Action
complements: Morosi (1870:156) reports that in Apulian Italiot, though the usual progres-
sive is *steo ce* (στέ[κ]ω και) VERB$_{FINITE}$ 'I stand and VERB = I keep VERB-ing', this be-
comes *steo pu* VERB when the action is located in the present. In Calabrian Italiot, the
equivalent locution is *steko* VERB$_{PARTICIPLE}$ (Rohlfs 1950:221—cf. Calabrian *steko legonda*
and Standard Italian *sto dicendo*); it is quite likely that the Apulian που-complement is
calquing the participle, now obsolete in its supplementary function in Apulia. Although
examples of Morosi's phenomenon are hard to come by, I believe the following is an in-
stance, though mistranslated by its collector Anastasios Karanastasis:

(3b)   ιλέανε,που στέουνε, *που* γλαίουνε τα παιδία, έχουνε μέα bεσόν̂-ν̂ο
ατσέ ν-νερό
λέγουν (που) ότι κλαίνε τα παιδιά, έχουν μεγάλη ανάγκη από νερό
they said that children are rying, they have great need of water
[Karanastasis]
they said, when children keep crying, they have great need of water
(HDMS 836:171; Corigliano, Apulia)

The results obtained show that the relative 'impermeability' of the που/πως barrier follows
the hierarchy EVALUATION MODALITY > SEMANTIC CLASS > INFORMATION MODALITY.

The tendency namely of που to spread at the expense of πως/ότι, and to efface the
grammaticalised differentiation between the two poles of the axis, recurs in the most
dialects for Evaluation Modality, and the least for Information Modality. This is a result
borne out cross-linguistically; the distinction most frequently expressed by a choice of
complementiser is that between facts and events, an Information Modality difference—

already expressed with remarkable stability across the dialects of Greek by πως/ότι versus
να. Conversely, a complementiser differentiation between evaluation modalities is
relatively rare cross-linguistically (see the survey in Ransom 1986); so one would expect
that the distinction between που and πως/ότι is cross-dialectally unstable.

3.4. Reduced presence of που

Up to this point, dialects have been considered in which που is more widespread than in CSMG. There are also dialects in which the reverse is the case. As a complementiser, που is wholly absent in Silliot and Mariupolitan. This holds even for the CSMG shibboleth of obligatory use after emotive predicates: the two dialects retain the archaic ότι in this function:

(4a) Qουγιουμῆς σεβινδᾳ πολ'ύ, *όčι* qαζάνῆσι πολ'ύ παρά.
      *The goldsmith is very much pleased **that** he has gained much money.*
      (Dawkins 1916:298; Silli)

(4b) *Limbizmen ot' perasan n' dunja liγus piδija*
      *Regretting **that** they had traversed life without children.* (Karpozilos 1994
      verse 4; Mariupol)

που is also wholly absent as a complementiser in Western Cappadocian and Pharasiot. The seeming exception to this from Silata (4c) may be explained by the fact that Dawkins was only able to obtains texts in that village from school-children, who had thus been exposed to Constantinopolitan (the prestige language variant in Anatolia) and its widespread use of complementiser-που:

(4c) Ας το αϊνά μέσα θώρινεν το κορίč, και δεν ινάνδανεν *όπου* το
      σκότωσαν.
      *In the looking-glass she saw the girl, and did not believe **that** they had
      killed her.* (Dawkins 1916:440; Silata)

The relativiser που itself is marginal in Silli and Cappadocia, which instead use κιατ and το/του respectively. The failure of complementiser-που to take hold in the Anatolian hinterland and the Crimea (where the Mariupolitans originally dwelled) should therefore be explained as an archaism. On the other hand, the relativiser το/του is in prominent use as a complementiser throughout Anatolia; but for a variety of reasons, it is best regarded as a Turcism, and is not a phenomenon related to the diffusion of που considered here. In that it calques the Turkish personal participle, however, το/του is being used in exactly the same fashion as I have claimed for *steo pu* in Apulian Italiot.

που is also vestigial as a complementiser in Pontic: whereas there are 80 που-complements in the 118,000 word CSMG corpus of Tahtsis (1971 [1963]), my 200,000 word corpus of Pontic yielded just 16 που-complements. It is possible that in the case of Pontic, the που-complements represent merely a contingent reanalysis of ντο, which like που is both a relativiser and a complementiser, but is much more widely used (193 instances in my corpus as a complementiser.) Thus, even though 9 of the 16 instances of complementiser-που in my corpus are Emotive Predetermined Truth Reactions—a proportion reminiscent of CSMG—ντο occurs in the same function 27 times, and even πως occurs 20 times. Thus που is not a salient member of the Pontic complementiser paradigm, and its development there is probably unrelated to that in European Greek.

3.5. Diachronic Explanation

As can be seen on Map 1, the regions in which the 'deviant' behaviour of complementiser-που obtains are geographically scattered. Though there is no space to expound this here, I have established (Nicholas 1998 Chapter 6) that almost all the dialects involved are also diachronically independent from each other. In particular, there is no reason to accept the earlier belief by linguists like Hatzidakis that Livisi was a Northern Greek (i.e. Macedonian or Thracian) colony (see discussion in Andriotis 1961). And although data from Western Thrace is scant, there is no reason to believe that Thracian and Western Macedonian are part of a contiguous zone in their handling of που-complements.

The only region where one can speak of diachronic relations is Anatolia; Dawkins (1937:21–23) speculated that Mariupolitan is closest diachronically to Silliot, constituting the remnants of Old Western Anatolian Greek. This would explain their conservative reten- tion of ότι, reduced to the verbal clitic δι in Pharasa and absent in Western Cappadocian and Pontic. The retention of ότι with emotives makes these the most archaic dialects with regard to που in the Greek-speaking world; the absence of complementiser-πως in Silli and Cappadocia (though not Mariupolitan, judging from the texts in Ashla 1999) confirms this conservatism. The fate of the other two Anatolian dialects reflects their extensive Turcicis- ation: as a calque of the Turkish personal participle, το/του/ντο has effaced the older com- plementation strategies of Cappadocian, and essentially preempted the spread of που into Pontic.

There is only one European Greek dialect in which external influence might be invoked to account for the prominence of που as a complementiser: the use of που in Western Macedonian Greek is strongly reminiscent of Macedonian Slavonic *deka* 'where; relativiser; non-factive realis complementiser' (Koneski 1961–66 *s.v. deka*); the factive complementiser in that language is instead *što* 'what'). Furthermore, the part of Western Macedonia in which I have been able to identify significant discrepancies in the use of complementiser-που is the area of Greek/Slavonic bilingualism; in Chalcidica, where Slavonic has not been spoken in modern times, no appreciable deviation from CSMG was noted.

I have not been able to establish that the same has occurred with Bulgarian and Thracian Greek. While non-standard Bulgarian extends the locative-derived relativiser *deto* (cognate to *deka*) to a factive complementiser (Rudin 1985:45), I have seen no evidence that Bulgarian makes of *deto* a *non-factive* complementiser, particularly in the southern dialects adjoining Thracian Greek.[7] The developments in Thracian, it seems, are independent of Western Macedonian, and should rather be attributed to common linguistic drift. Likewise, although there is a suggestive parallel between Calabrian Italiot *steko legonda* and Standard Italian *sto dicendo*, the Apulian decision to calque this with a *pu*-clause, and to extend *pu* to Occurrence and Action contexts, is unmotivated by any traits of Italian or Salentino—

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[7]The spread in complementiser-που includes Sozopolis in coastal Eastern Rumelia, though Philipoupolis (Plovdiv), north of modern Western Thrace, seems to have had CSMG com- plementation.

though Apulian Italiot strongly favours the borrowed Southern Italian complementiser *ca*, and thus would be amenable to such influence.

So with the apparent exception of Western Macedonian, the breakdown in the distinction between που and πως/ότι in Greek dialect has neither a single origin in time, nor in place: it represents a common development on the part of several dialects, essentially moving along the same lines (with the single, though spectacular exception of Italiot), yet proceeding to different extents from dialect to dialect and from region to region.

4. Extensions

The expansion of που from a factive into a non-factive domain is a cross-linguistically commonplace instance of loss of markedness. One development it is strongly reminiscent of is that of Biblical Hebrew *asher* (Giv—n 1991), which seemes to have been originally a locative, and which developed from a relativiser into a generic complementiser. Two of the pathways it followed in doing so were factive, and have their parallels in Greek: causative > emotive complementiser, and appositive > cognitive complementiser. The third does not: *asher* was also a purposive, allowing it to become an irrealis complementiser just as happened with Greek ίνα> να.

The purposive behaviour of *asher* immediately casts doubt on the metaphoricist account promulgated by Christidis and Papadopoulou for the distribution of που. A look at the Greek dialectal situation only strengthens that doubt. Pontic ντο, for example, has an overall distribution in its various functions rather similar to CSMG που; yet it is etymologically distant from any notion of stationarity. I believe it is most useful to account for the factive distribution of Pontic ντο and CSMG που, not in terms of their ultimate etymologies, but in the fact that their spread in the language radiated out from the function of relativiser—itself inherently factive. And their factivity was perpetuated into novel functions by virtue of the paradigmatic oppositions they entered into; this accounts for its subsequent trajectory much more concretely than invoking metaphor, an approach which has no synchronic corresponding mechanism to actuate it, once etymologies have been forgotten.

The movement away from factive που indicates that its etymology was indeed forgotten, and the persistence of factivity in που was neither preordained nor guaranteed. As I have found in my doctoral research, this is part of a general pattern of fractiousness in Eastern Greek dialects—Contossopoulos' (1983–84) *Grèce du είντα*, in which the factivity constraints on the distribution of που are frequently violated, even if in small ways. By contrast, Western [= Mainland] Greek (*Grèce du τι*), which includes CSMG, tends to abide by the factivity constraints very closely.

Tomić (1992) has speculated that the Macedonian Slavonic connective paradigm is simpler and more compositional than its Serbo-Croatian counterpart because Macedonian Slavonic, spoken in an area of high bilingualism, was under pressure to remodel its paradigms into a more analytical, perspicuous system. It is known that Eastern Greek has greater linguistic heterogeny than Western Greek, more lexical and grammatical archaisms, and a more diversified vocabulary (Contossopoulos 1982–83). Dawkins (1940:7–13) has attempted to explain this division in Greek dialect by the islands being where "the Greek blood is most

purely kept [I] very much less so on the mainland where there have been successive incursions of Slav, Albanian and Roumanian tribes." (Dawkins 1940:7) While few nowadays would accept that 'racial purity' determines linguistic behaviour, long-time coexistence with heterogloss populations is a different story. Dawkins' comparison of Western Greek to the Hellenistic *koine* is thus highly appropriate: bilingualism on the Greek mainland could well have acted as an impetus to paradigmatic simplifications in the variants of Greek spoken there—a pressure avoided by the more insular populations of Eastern Greek (the Aegean islands, and the Greek linguistic islands in Anatolia).

The examples Dawkins discusses are from Greek morphology; yet there is no reason to think the same did not take place with Greek dialectal syntax. This means that far from being the endpoint of a development governed by universals of grammaticalisation, the distribution of που in CSMG, with its consistent adherence to factivity, is in fact the oddity among Greek dialects. Its simplicity results from contact-induced simplification of the που-paradigm; left to its own devices, a more 'natural' endpoint for που is manifested in the chaotic heterogeny of Eastern Greek. Though it should be obvious, it still bears saying: the modes of diachronic explanation of Modern Greek need to take the vicissitudes of Greek history into account.

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THE ACTIVE IMPERFECT OF THE VERBS OF THE "2ND CONJUGATION" IN THE PELOPONNESIAN VARIETIES OF MODERN GREEK

Abstract

The present paper deals with the different types of formation and the inflectional patterns of the active imperfect of the verbs which in traditional grammar are known as verbs of the "2nd conjugation" in the Pelo:·nnesian varieties of Modern Greek (except Tsakonian and Maniot) mainly from the po::: of view of diachronic linguistics. An attempt is made to reconstruct the processes which led to the current situation and tendencies of further change are presented. The diachrony of the morphology of the imperfect of the "2nd conjugation" in the Peloponnesian varieties involves developments such as morphologiza-tion of a phonological process and the evolution of number-oriented allomorphy at the aspect markers level while on the other side it might offer interesting insights into the mechanisms and scope of morphological changes and the morphological structure of the modern Greek verb.

1.1. In the peloponnesian varieties of Modern Greek the two original types of the Verbs of Class II (the ancient «contracted» verbs) were kept distinct, especially in some parts of the Peloponnese and in the speech of the older generations of speakers. As examples may serve here the verbs *pernó* (→ *perná-o*) 'pass' and *foró* 'wear, put on'[1]:

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[1] The dialectal material is drawn mainly from collections of the archive of the Academy of Athens' Historical Lexicon of the Modern Greek Language (abbreviated as *ILNE*, from greek *Istorikón Lexikón tis Néas Ellinikís* 'Historical Lexicon of Modern Greek') and collections of the archive of the Library of Folklore of the Faculty of Philosophy of the University of Athens (abbreviated as *SL* from greek *Spoudhastírion Laoghrafías* 'Library of Folklore'). The latter (as well as a considerable part of the former) contain narrations of villagers (mostly elderly and illiterate people), on matters of the local culture.

A careful selection of the most suitable and carefully written collections (as to the degree of recording accuracy of the local variety they show) from both archives was undertaken. The collections of ILNE were carried out in different periods of the 20th century whereas those collections of the SL, where material was drawn from, date back in the late 1960s to the early 1980s. The numbering of the collections given in the present paper follows the numbering of both archives.

The material was further drawn from peloponnesian demotic songs published in the Greek review *Laoghrafia* ('Folklore'), from Koukoulés (1908) and other sources.

Type A		Type B	
SINGULAR	PLURAL	SINGULAR	PLURAL
pern-ó → perná-o	pernúme → perná-me	for-ó	forúme
pernás	pernáte	forís	foríte
perná → perná-i	pernún(e) → perná-ne	forí	forún(e)

Especially Type B is still represented by a relatively large number of verbs which in the spoken Modern Greek Koine (hereafter: MGK) have already passed to Type A. This process can also be observed in the peloponnesian varieties, where it seems to have spread much further in the south of Lakonia and in parts of the Argolis compared with other parts of the Peloponnese such as the west and southwest. There is of course a great deal of fluctuation among the modern Greek dialects as to what verbs of Class II belong or belonged originally to which of the two types, a fact which was already pointed out by Hatzidakis (1892:129-130). The same fluctuation can also be observed in the Peloponnese. The verbs of Class II which show inflectional forms of Type B in PMG are the following: boró 'can, be able', kaló 'invite', zó (or ʒó) 'live', aryó 'be late, delayed', karteró 'await, expect', filó 'kiss', varó 'beat, hit', laló 'sing (of singing birds), crow (of roosters)', perpató 'walk', foró 'wear', ponó 'ache, hurt', krató 'hold', pilaló 'run', pató 'tread, stand on, set one's foot on' and others, different ones depending on the region. zó, boró and kaló seem to be the most resistant ones to the process of "take-over" by Type A. Interestingly the same holds true also for the MGK. Especially boró is one of the most frequently used verbal lexemes, a fact which contributes to its preserving its older inflectional pattern[2]. At the other end of the scale, pató has in the spoken peloponnesian varieties probably completely passed long ago to the more productive Type A (patá-o, patá-me, páta-y-a –1.SG, 1.PL, 1.SG. imperfect- etc.). Older forms following the inflectional pattern of Type B though can still be found in demotic songs (patis –2.SG- vs. today's patá-s etc.). Moreover, in the speech of some of the older speakers, "contracted" older forms of the present paradigm of Type A are still in limited use (e.g. 1.SG. pernó, 3.SG. perná, 1.PL. pernúme, 3.PL. pernún(e)). They are also used in the MGK in more formal speech.

1.2. Another group of verbs which in the Peloponnesian varieties seem to follow the inflectional pattern of Type B are the following "monosyllabics" (in the SG present): ljó[3] 'untie, loose', ksjó 'scratch, scrape', kljó 'close', ftjó 'spit', sjó[4] 'shake'. These verbs are of a totally different origin though. They go back to ancient "vocalic" verbs with stem final vowels that all finally merged with /i/: lýːoː > lío, ksýoː > ksío, kleioː > klíːoː > klio, ptýoː > ftio, seíoː > siːoː > sío. Through 'synizesis' which took place in medieval times, the

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[2]The notion of 'token frequency'. See also Bybee (1985:Ch.5).Yet forms of this verb following Type A (e.g. bóraya –imperfect-) can also be found across the peninsula, especially in Lakonia. See also Hock (1986:Ch.10).

[3] In Modern Greek the sequence lj is always (synchronically) realized as a single segment [ʎ]. Yet for the sake of clarity of argumentation in the present paper and in order to avoid a theoretical discussion on the status of the palatalized consonants in Modern Greek –a discussion which doesn't affect the essence of this paper- the transcription lj is used.

[4] The sequence sj is sometimes realized as [s] or [ʃ]: [kso] or [kʃo], [so] or [ʃo].

sequence /io/ developed to *jó* yielding the current forms *ljó* etc. Peloponnesian Modern Greek (hereafter: PMG) did not participate in one of the most important innovations of the MGK, the transformation of these presents (among several others) to presents with stem final –*n*- (compare standard modern Greek *lí-n-o ksí-n-o klí-n-o fti-n-o* (*sío* didn't survive in unbroken continuity down to spoken MGK but was introduced into the standard language through archaizing forms of the written language). Thus these verbs, unlike their more numerous partners which were listed above, go back to ordinary ancient "barytone" verbs (verbs of Class I like *phér-o:* 'carry, bear') and don't show any signs of passing to Type A at all at no part of the peninsula (apart, of course, from their substitution under the influence of the MGK by presents with stem-final –*n*-, e.g. *klí-n-o*), for example **ftá-o* 'spit' (as opposed to *krató kratís → kratá-o kratá-s* etc.). Example: *klj-ó* 'close':

SINGULAR	PLURAL
Kljó	Kljúme
Kljís	Kljíte[5]
Klji	Kljún(e)

1.3. As regards the imperfect, i.e. the imperfective past, taking into account the data from different periods of the history and from different varieties of the Greek language, we have to start at some point in time (late 'Koine', Medieval or "Early Modern Greek"[6]) with the following paradigms:

Type A			Type B	
SINGULAR	PLURAL		SINGULAR	PLURAL
e-pérnun	e-pernúme		e-fórun	e-forúme
e-pérnas	e-pernáte		e-fóris	e-foríte
e-pérna	e-pérnun		e-fóri	e-fórun

Here also the "contracted" older forms of the 2.SG. *epérnas efóris* and 3.SG. *epérna efóri* can still occur even though very sporadically. Even in the older demotic songs these forms are rather rare and their preservation could be attributed to the metre. The older 1.SG. of both Types A and B in –*un* was probably preserved long enough to be attested in demotic songs which perhaps do not go beyond the second half of the eighteenth century: 1.SG *epérnun pátun* (present *pató*) (both attested in Peloponnesian demotic songs[7]). The extension of the forms of the 1. and 3.SG. present of Type A to –*á-o* and –*á-i* respectively and the abandonment of the alternation /a/~/u/ in favour of /a/ created a new more uniform paradigm built on the stem *perna*- which -within the present at least- does not display allomorphy, with the endings –*o* –*s* –*i* –*me* –*te* –*ne*. Yet, a comparable development did not

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[5] It is not clear whether, when and where the [ʎ] loses palatality in the position before /i/ yielding *klis kli klíte*. There is evidence of /l/ surfacing as [ʎ] in the position before /i/ in (parts) of the Peloponnese (e.g. ['ʎikos] for /likos/ 'wolf', standard ['likos]). This doubled by hypothetical reasons of morphological transparency could have contributed to retaining palatality also in cases like *kljís klji kljíte* which have of course different underlying representations from cases like /likos/. As for *tj* it looses the [j] before /i/. Compare the forms *ftis fti ftite* instead of *ftjis ftji ftjíte* of the verb *ftjó* 'spit'.

[6] These are of course notions which are difficult to delimit with certainty.

[7] *Laoghrafia* 1 (1909:188-189 date of the first edition of the songs:1888).

take place in the present paradigm of Type B. Forms like *foríme *forine for example, are not attested[8]. This fact would favour morphological analyses like e.g. Babiniotis' (1972) and Ralli's (1987) according to which the alternating vowels /i/ and /u/ in the present paradigm of Type B are not parts of the verbal base (the "stem"), as is the case with the vowel /a/ in Type A, but parts of the terminations, that is 'thematic vowel (/i/, /u/) + ending' (-s, -me etc.).

1.4. Let us now take a closer look at the formation of the imperfect. Currently the most widely used formation throughout the peninsula is the following:

Type A		Type B	
SINGULAR	PLURAL	SINGULAR	PLURAL
(e-)pérna-γ-a	(e-)perná-γ-ame	(e-)fóri-γ-a	(e-)fori-γ-ame
(e-)pérna-(j-)es	(e-)perná-γ-ate	(e-)fóri-(j-)es	(e-)fori-γ-ate
(e-)pérna-(j-)e	(e-)perna-γ-an(e)	(e-)fóri-(j-)e	(e-)fori-γ-ane

The origin of this formation, at least in Type A, has already been extensively analyzed by a number of linguists. As part of a strong tendency for, as Babiniotis labeled it, "unification of past structures (i.e. categories)", the terminations of the past paradigm of the verbs of Class I (the so-called "barytones" in traditional grammar) with the characteristic of the past categories alternating vowels /a/ and /e/ (together with *shifted stress*), were added to the stem allomorph with stem-final /a/ (*perna-*) replacing the older terminations. This process yielded forms like *pérna-e-s perná-a-me* etc. The whole development was accompanied by the insertion of the voiced velar fricative /γ/ between the stem final vowel and the initial vowels of the terminations. This consonantal phoneme is widely used in modern Greek varieties as a means of resolving the hiatus. The details may of course vary from variety to variety and are still not very clear. There are cases in modern Greek varieties (also in Peloponnesian ones and even in MGK) where the /γ/ seems to have been inserted intervocalically at morpheme boundaries, e.g. *petréle-γ-o* (standard *petréle-o*) 'petroleum', 1.PL. *perná-γ-ame* 'we passed, we were passing', *filá-γ-ome* (instead of *filá-ome* 'I watch over myself'). But there are also examples where the /γ/ is inserted in "morphlogically indifferent" positions, e.g. *a-j-éras*[9] 'air, wind' (standard *aéras*). On the other hand there has been at least in some parts of the peninsula a strong tendency in the opposite direction: deletion of intervocalic /γ/, especially in the position before front vowels, where it surfaces as [j], whether at a morpheme boundary or not. The evidence seems contradictory and inconclusive. The exact nature of the conditioning of the /γ/-insertion (purely phonological or morphophonological) is not clear although the evidence seems to point more to (at least originally) phonological conditioning[10]. Further and more detailed research is needed though in order to clear the picture. Suffice it to mention here that, as regards the paradigm

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[8] I have up to now found just one form which, if correctly recorded, would be the only indication of such a process: the 1.PL-form *kalíme* (instead of *kalúme*, *kaló* 'invite') from the village of Lákka (former Ghrópa) in Achaia (SL 2341:12).

[9] The /γ/ surfaces as [j] in the position before front vowels in Modern Greek. For the sake of clarity of argumentation the transcription *j* is used throughout the present paper whenever /γ/ appears before front vowels.

[10] See also Ralli (1987:298ff), Joseph (1998:351f. and p.367).

of the imperfect of the verbs of Class II, the evidence in the vast majority of instances shows presence of the /γ/ before terminations with initial /a/, that is the terminations of the 1.SG and of the plural. In the 2. and 3.SG (terminations –es –e respectively) the /γ/, which in this case would surface as [j], is often omitted in the collections. This has two possible explanations: (a) The /γ/ was in the beginning inserted only in environments where it would not undergo any *phonetic* change (/γ/ > [j]) following a possible general distributional pattern of PMG according to which the phoneme /γ/ could not appear in the position after a vowel and before front vowels. Later, under the pressure from the rest of the paradigm, the /γ/ was also inserted in the position before front vowels, where it came to be realized as [j]. This is the situation in today's MGK.(b) The /γ/ was from the beginning inserted in all forms of the paradigm of the imperfect and was realized as [j] before front vowels (in this case /e/), a position where it was highly unstable though and subject to occasional deletion which would explain the frequent omission of [j] in collections of material.

Regardless of the actual course of development, today the /γ/ is stable in the position between vowels at least in the paradigm of the active imperfect of the verbs of Class II and in contemporary spoken MGK where this imperfect formation has already established itself, more in the south of Greece than in the north[11]. This segment is regarded by some linguists[12] as being already an aspect marker marking the [-perfective]. This would constitute a case of morphologization of a phonological process which seems to be "partial"[13] since the new morpheme can still appear only between vowels[14], the first of which is stem-final and characteristic of the stems of a subclass of verbs (Type A of Class II), and the second of which is a vowel which, in certain theoretical frames, could be viewed as tense marker ([+past]).

1.5. The absence of stem allomorphy within the paradigm of the imperfect of Type A would suggest that the new imperfect formation appeared *after* the creation of present forms like *perná-o perná-i perná-me perná-ne* instead of *pernó perná pernúme pernúne* -in other words, after the generalization of the vowel /a/ throughout the present paradigm- on the new stem *perna-* which does not display allomorphy. Apart from chronological considerations though (the forms with stem-final /a/ have not yet completely "ousted" the older ones with /u/), the examination of more dialectal material revealed traces of the imperfect paradigm possibly going through the same stage of the /a/~/u/ alternation as did the present paradigm.

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[11] Imperfects of the *fóriya*-type are unknown in the MGK. In verbs of Type B the imperfect formation with the suffix –*ús*- is used instead: *borúsa* 'I could, I was able'.

[12] Babiniotis (1972), Ralli (1987).

[13] See Anderson (1987:331-333).

[14] We probably have here a situation as that described by Anderson (1987:332,333): "...there is good reason to believe that a phonological environment for a given change [in our case /γ/-insertion] may persist even after some instances of the rule's application have been reanalyzed as morphologically determined". This seems to be the case with the intervocallically inserted /γ/ of Modern Greek, which seems to have developed to a general aspect marker in vocalic verbs (i.e. verbs with stem final vowels), compare *akú-o* 'I hear/listen': *áku-γ-a* 'I heard, was listening', *lé-o* ('say') : *é-le-γ-a*, *tró-o* ('eat') : *é-tro-γ-a*

Forms like 1.PL. *arxinú-y-ame* (*arxiná-o* 'begin')[15], 3.PL. *jirnú-y-ane* (*jirná-o* 'turn')[16] etc. attested from various places in the Peloponnese can serve as strong indications in favour of this hypothesis. This means further that the abandonment of the /a/~/u/ alternation ran probably in parallel both in the present *and* the imperfect (although it seems to have proceeded somewhat faster in the imperfect) and that the intepretation from the speakers' side of *both* the sequences *perna-* and *pernu-*, whatever their possible original internal structure, as allomorphs of the verbal stem is highly probable. The vowels /a/ and /u/ would have thus to be regarded as stem final vowels, i.e. as parts of the stem and not of the termination, by the time of the emergence of the new imperfect formation.

2.1. Let us now turn to the imperfect of Type B. Here the process may in the beginning have produced analogously structured surface forms:

SINGULAR	PLURAL
e-fórun[17]	*e-forú-y-ame*
e-fóri-es/-j-es (→ *e-fóri-j-es*)	*e-forí-y-ate*
e-fóri-e/-j-e (→ *e-fóri-j-e*)	*e-forú-y-ane*

The forms *e-fóri-es* *e-fóri-e* and *e-fórj-es* *e-fórj-e* of the 2. and 3.SG. are used beside the "fuller" ones, *(e-)fóri-j-es* *(e-)fóri-j-e*. As for the first ones one cannot of course be certain whether in every case they can be regarded as direct survivals of the original *e-fóri-es* *e-fóri-e* (with occasional synizesis yielding *e-fórj-es* *e-fórj-e*[18]) or as products of the following process: *e-fóri-e* > *e-fóri-j-e* (/γ/-insertion, see above) > *e-fór-j-e* (with deletion of /i/ common in PMG) or *e-fóri-e* (with deletion of [j]).
The former existence of forms like the above in the 1.PL and 3.PL, much alike the respective ones we saw above for Type A, is confirmed by relatively numerous attestations from various places of the peninsula. Compare for instance 1.PL *karterúyame* (*karteró*) from Páos (former Skoúpi) in Achaia[19], 1.PL *borúyame* (*boró*) from the region of Kynouría (Arkadia)[20], 3.PL *forúyane* (*foró*) from Lechená in Elis[21], 3.PL *zúyane* (*zo*) from Xirokámbi in Lakonia[22] etc.. The original /i/~/u/ alternation was then abandoned in favour of the vowel /i/ resulting in the current forms e.g. 1.PL. *kratí-y-ame* (*krat-ó* 'hold') 3.PL. *borí-y-ane* (*bor-ó* 'can, be able') etc.. The forms *karterúyame* etc. should then be regarded as relic forms. As happened with the verbs of Type A the stem allomorph which served as the pivot for levelling was that of the 2.-3.SG. and 2.PL. (*kratí-*):

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[15] From Piána in Arkadia (SL 2382:23).

[16] From Ellinítsa (former Memí) in Arkadia (SL 1303:22).

[17] This form may have been preserved longer, see above.

[18] For the sake of clarity of argumentation the transcription *j* is used in the present paper in cases where this phone could be regarded as an allophone of /i/.

[19] ILNE 133:56.

[20] ILNE 635:7.

[21] ILNE 900:261.

[22] ILNE 1038:68.

SINGULAR	PLURAL
(e-)fóri-γ-a	*(e-)fori-γ-ame*
(e-)fóri-j-es	*(e-)fori-γ-ate*
(e-)fóri-j-e	*(e-)fori-γ-ane*

Yet the development of the imperfect formation of Type B poses a problem with regard to the morphological analysis proposed above for this type of verbs. There it was argued that in the paradigm of the present the alternating vowels /i/ and /u/ are probably not a part of the stem but should rather be considered as parts of the termination, more specifically as «thematic» vowels[23]. This seems to be supported by the absence of any levelling tendencies which would give forms like *forime *forine*. Yet the development of the imperfect would force us, just like in the case of Type A, to analyse the present (and of course the original imperfect) paradigm as containing, at the stage where the development started which led to the current paradigms, a stem *fori-/foru-* displaying allomorphy (/i/ and /u/ being stem-final) and the endings:

SINGULAR	PLURAL
for-ó	*forú-me*
fori-s	*fori-te*
fori-	*forú-n(e)*

This would mean that the speakers would have regarded the alternating sequences *fori-foru-* as allomorphs of the verbal base to which they added the terminations *-a -es -e* etc. characteristic of the past tenses (perfective past of Classes I and II, imperfective past of Class I). These terminations appear always to the right of the stem. To regard the alternating vowels /i/ and /u/ as "thematic" vowels -which always appear to the immediate left of the endings- and not as parts of the verbal base, would lead to the hypothesis that the speakers inserted between the "thematic vowels" and the endings the alternating vowels /a/ and /e/, that is another set of "thematic vowels" or "tense markers" (depending on the theoretical frame one is willing to follow for the morphological analysis of the modern Greek verb). Unfortunately, as we saw above, there are no signs of levelling in the present of Type B, comparable to that of Type A. So either: (a) We hold on to the analysis of the sequences *fori- foru-* as realizations of the stem, accepting the preservation of an inherited alternation in the present (*fori- ~ foru-*) but levelling in the imperfect (*fori- ~ foru- > fori-*), or (b) we accept a different morphological analysis for the present and the imperfect (present *for-i-for-u-* where /i/ /u/ «thematic vowels»/parts of the termination : imperfect *fori-* where /i/ stem-final). Solution (b) has the disadvantage of considerable asymmetry in the system of the verbs of Class II. In case (a) we could assume that the leveling simply hasn't started yet. In the meantime a new, stronger and more general tendency leads the verbs of Type B to Type A.

2.2. As for the imperfect of the «monosyllabic» verbs *kljó* etc. the surface outcomes of the developments which took place in the paradigm of the imperfect of those verbs resemble the ones of the other Type-B-verbs (example: *kljó* 'I close'):

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[23]See Babiniotis (1972), Ralli (1987).

é-kli-γ-a	*(e-)kli-γ-ame*
é-kli-(j-)es	*(e-)kli-γ-ate*
é-kli-(j-)e	*(e-)kli-γ-an(e)*

The development has not been so complicated as in the imperfect of the other Type-B-verbs. What happened here was the replacement of the older terminations of the imperfect (just as in the case of the verbs of Class I ("barytones") to which they originally belonged) and /γ/-insertion intervocalically:

1.SG *é-kli-on > é-kli-a > é-kli-γ-a*
1.PL *e-kli-omen > e-kli-ame(n) > e-kli-γ-ame*
3.PL *é-kli-on > é-kli-an > é-kli-γ-an*

The sequence *kli- ~ klj-* is constant in the paradigm of the present (see above) and the imperfect and can be regarded as the stem. The vowel *-u-* in the present paradigm is part of the termination:

1.PL. *klj-úme*
3.PL *klj-úne*

All the above explain the fact that in almost the whole of the Peloponnese I have not found forms like 1.PL *kljúγame* or 3.PL *kljúγane*, comparable to *forúγane*[24]. Thus, despite synizesis and the developments in the imperfect, which rendered the surface forms of the paradigm of the present and the imperfect similar to the respective ones of the verbs of Type B proper, the surface similarity of the verbs *kljó* etc. to the verbs of Type B proper has not been sufficient to render them full members of Type B of Class II at least in the active[25]. Occasional present forms like *kli-j-i* (3.SG) and *kli-γ-ume* (1.PL)[26] and 3.PL *δjalí-γ-une*[27] (instead of *δja-lj-úne*, 1.SG present: *δja-ljó* 'disperse, scatter, dissolve') can serve as indications that the speakers perhaps still analyse forms of the imperfect like *é-kli-γ-a* in the same way as e.g. *é-trex-a* (*tréx-o* 'run'). Even the /γ/ seems to be analysed in cases like these as forming part of the stem and not having any morphemic status.

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[24] Such forms, which would show shift of morpheme boundaries, are attested only for the variety of the former "municipality of Inoús (Oinoûs)" in northeastern Lakonia (see below). Koukoulés (1908:197) mentions the 1.PL-forms *kljúname* from the village of Vresthena, and *kljúγame e-ksjúγame* (*ksjó* 'scratch, scrape') and *e-ftjúγame* (*ftjó* 'spit'), which point to an analysis from the speakers' side of the respective forms of the present as *kljú-me ksjú-me* and *ftjú-me*, with /u/ having "moved" from the termination to the stem.

[25] The total absence of any signs of these verbs passing to Type A (e.g. **ftá-o*), as happened in varieties of Central Greece according to Hatzidakis (1905:273), is in my opinion also a strong indication of the special position of these verbs.

[26] Both from Paleá Epídhavros in the Argolis (SL 2987:90). *klíγume* is also attested from Ellinikó (former Moulátsi) in the region of Gortynia (Arkadia) (SL 2966:12).

[27] From Vromóvrysi in Messenia (SL 3514:275).

2.3. From a number of villages and the region of West Korinthia[28] (see map) forms of the imperfect of Type B like 1.SG *fór-γ-a* 1.PL *fór-γ-ame* 2.PL *fór-γ-ate*[29] 3.PL *fór-γ-ane* are attested. The age of these forms is unknown. The earliest attestation of such a form that I am aware of originates from the village of Ichalía in Messenia: *vár-γ-ane* 'they hit' (instead of *vari-γ-ane*, present *var-ó*). The form appears in a text (a real narration) published by Politis (1904)[30]. The "fuller" forms *fóri-γ-an/fori-γ-ane* are in many cases also attested beside *fór-γ-ame fór-γ-ane*. Before attempting to explain these forms, a remark must be made, which has to do with the vowel system of the Peloponnesian varieties. Unstressed vowels, especially /i/ and /u/ drop in some parts of the Peloponnese, not as systematically as in the northern Greek dialects, nevertheless very frequently and in some cases with permanent results. The most favourable environment for this is the position between /r/ and another consonant or the word boundary[31]. Through /i/-deletion the forms of the 1.SG *(e-)fóri-γ-a* and 3.PL *(e-)fóri-γ-an* became *(e-)fór-γ-a* *(e-)fór-γ-an*, forms which are actually attested. The forms of the 2. and 3.SG *ɘ-)fórj-es* *(e-)fórj-e* could either be the results of /i/-deletion (from *(e-)fóri-j-es* *(e-)fóri-j-e*) or represent the older forms without /γ/ (from *(e-)fóri-es* *(e-)fóri-e*, with synizesis /i/ > [j]). This development created a new stem alternation *fór-* ~ *fori-* within the paradigm of the imperfect:

SINGULAR	PLURAL
(e-)fór-γ-a	*(e-)fori-γ-ame*
(e-)fór-j-es	*(e-)fori-γ-ate*
(e-)fór-j-e	*(e-)fór-γ-an (< e-fóri-γ-an, beside e-fori-γ-ane)*

The forms *fór-γ-ame fór-γ-ate fór-γ-ane* show levelling of the stem alternation which was caused by the deletion of /i/ in the position between /r/ and /γ/. As for the forms of the 2. and 3.SG, if they represent the older forms *(e-)fóri-es* > *(e-)fórj-es* *(e-)fóri-e* > *(e-)fórj-e*, they could have been reanalysed (probably already before the emergence of *fór-γ-ame fór-γ-ate fór-γ-ane*) as *(e-)fór-j-es* *(e-)fór-j-e* with [j] being reinterpreted as an allophone of the /γ/ this phoneme being realised as [γ] in the rest of the paradigm. What we have here is an interesting case of a sound change disturbing the symmetry of the imperfect paradigm of the verbs of Type B the stems of which contain the /r/[32] and, on a larger scale, of the verbs of

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[28] ILNE 705:156, 200.

[29] I haven't yet actually found the form of the 2.PL anywhere in the sources. Yet, the existence of forms like 1.PL. *fór-γ-ame* 3.PL *fór-γ-ane* assures the possible appearance of the form of the 2.PL in appropriate contexts.

[30] Part I:297. The text might of course be several years older than its publication in Politis' book.

[31] The result of /i/-deletion in positions like this is so permanent that it can lead to reanalysis of the structure of the word. Compare e.g. the verb *perisév-o* 'to be left over, to be superfluous, to be more than is necessary' which through /i/-deletion appears as *persév-o*. The creation of an imperfect *pérsev-a* -which is actually attested in some places of the peninsula- (instead of *perisev-a*) seems to point to a reanalysis of the word as lacking the /i/ in the underlying representation.

[32] The paradigms of the other verbs of Type B don't show such forms (*kál-γ-ame* –present *kal-ó-* or *krát-γ-ane* –present *krat-ó-* for example are not attested).

Type B and of Class II. The step which the speakers undertook after the deletion of /i/ was not towards restoring the deleted /i/ which was preserved in the forms 1. and 2.PL and in the imperfect paradigm of the rest of the verbs of Type B. On the contrary the speakers moved towards "simplifying" the imperfect paradigm of the verbs of Type B of Class II, the stems of which contain the liquid /r/, extending the new stressed /i/-less allomorph to the forms of the paradigm which were not subject to /i/-deletion. This means that they simplified "locally", in a very restricted area of the system on the basis of surface realizations of forms[33]. In the same time they complicated matters in the larger system of the verbs of Type B or, more general, Class II. This development is also a step further in the process of morphologization of the /ɣ/ since this segment can now appear in a position other than its original intervocalic position.

2.4. Evidence from a number of villages (see map) shows a more or less strong tendency towards levelling of the stem alternation between the past tenses in those verbs of Type B which show a stem allomorph with stem-final /e/ in the forms of the [+perfective]. In the material from these places we have imperfect forms like 2.SG *bóre-j-es*[34] 3.SG *váre-e*[35] 1.PL *foré-ɣ-ame*[36] 3.PL *bóre-ɣ-an*[37] *fóre-ɣ-an*[38] (instead of *bórijes, vári(j)e, foríyame, bóriyan, fóriyan*) which in most cases are also attested beside the ones with stem-final /e/). Compare the respective forms of the perfective past (aorist): *bóre-s-es váre-s-e foré-s-ame bóre-s-an fóre-s-an*. The stem allomorph with stem-final /e/ is originally restricted to the forms of the perfective aspect. The interesting point in this development is that the stem allomorph of the perfective past served as the pivot for the change, a fact which stresses the importance of the perfective aspect in the modern Greek verbal system[39]. The same process is evidenced from various places in the Peloponnese also for the verbs of Type A: 1.PL *metrí-ɣ-ame* (instead of *metráyame, metrá-o* 'measure, count') and 3.PL *kendí-ɣ-ane* (instead of *kendáyane, kendá-o* 'embroider')[40], 3.PL *ɣlendí-ɣ-ane* (instead of *ɣlendáyane, ɣlendá-o* 'celebrate, amuse oneself')[41], 3.SG *apándi-j-e* (instead of *apándaje, apandá-o* 'meet')[42] etc. Compare the respective forms of the perfective past: *metrí-s-ame, kendí-s-*

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[33] See also Kiparsky (1982:230), Joseph (1992).

[34] From Ághios Nikólaos (region of Kalávryta-Achaia) (SL 1652:7).

[35] From Vlachokerasiá (Arkadia) (ILNE 843:217, 218).

[36] From Ághios Flóros (Messenia) (SL 3334:23).

[37] From Vlachokerasiá (Arkadia) (ILNE 843:213).

[38] From Mavríki (Arkadia) (SL 1657:22, 23, 24, 25).

[39] The importance and the central position of the "aorist" (perfective) in the verbal system of Modern Greek has already been stressed and extensively laid out by Seiler (1952). Evidence from the diachronic evolution of Greek (constant remodelings of the "present" - i.e. imperfective- stems with the ones of the perfective as starting points) and in our case from processes observed in PMG, offers important evidence for the position of the perfective in Modern Greek.

[40] From Nerómylos (Messenia) (SL 1795:32,62).

[41] From Longanikos (Lakonia) (SL 3517:374).

[42] From Orchomenós (Arkadia) (SL 2364:79).

ane, ɣlendi-s-ane, apándi-s-ɛ . The interesting point about processes like this is that the speakers, through this redistribution of the stem allomorphs they undertake, seem to be moving away from the morphological unity (at least as regards the stem form) of the imperfective aspect and towards an increase of morphological uniformity of the past. The stem allomorphs seem to be redistributed according to the category of tense.

3.1. Let us now turn to the formation of the imperfective past in the varieties of a number of villages, which are all situated around Mt.Parnon (see map). In these villages we have an imperfect formation with a suffix –*n*- with no sign of stem allomorphy within the paradigm of the imperfect:

SINGULAR	PLURAL
fórun-a	*forún-ame*
fórun-es	*forún-ate*
fórun-e	*fórun-an / forún-ane*

Koukoulés who records this formation (1908:197) for the villages of the "municipality of 'Inoús' (Oinoûs)"[44] except Vamvakoú, is not very clear in this passage as to whether this formation was used only with the verbs of Type B or *both* Type A and B and in exactly which of the villages which made up the municipality[45]. Furthermore it is not very clear if this formation coexisted with the *ɣ*-formation in free alternation (e.g. *fórunes* beside *fóra-j-es* or *fóri-j-es*) in the variety of 'Inoús'. As for the village of Vamvakoú, as can be inferred from what he writes, in its variety the distinction between Type A and Type B had perhaps been abandoned in favour of Type A and only the *ɣ*-formation was in use[46]. As for the villages of Pighádhi (region of Kynouría-Arkadia) and Ághii Anárghyri (former Zoúpena, region of Lakonia) there is evidence for the use of the *n*-formation beside the *ɣ*-formation in free alternation, use of the *n*-formation with verbs of both types[47] (see below) but also abandonment of the original morphological distinction between the two types:

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[43] In some of the instances however such forms could be evidence for the verb belonging originally to Type B, the imperfect of which shows forms similar to the ones listed here.

[44] Vrésthena, Vamvakoú, Varvítsa, Vassarás, Véria, Megháli Vrýsi, Karyés (former Aráchova).

[45] I am inclined to interpret Koukoulés as recording the *n*-formation only for the verbs of Type B. Yet the first sentence of page 197 is again confusing. On p.156 he published a demotic song, in the second verse of which the imperfect form *e-rovólunan* (3.PL) 'they rushed downhill'. The verb is generally recorded as a verb of Type A (*rovolá-o*).

[46] P.197: «βάρουνα βάρουνες βάρουνε (εν Βαμβ. εβάραγα εξ ενεσ. βαράω)» instead of original *varó varís varí* which seems to have been preserved in the other villages (p.196). At the bottom of the same page he also mentions the form *forá-ɣ-ame* from Vamvakoú (instead of *forí-ɣ-ame* or perhaps *forúname*).

[47] Note also the interesting imperfect forms 3.SG *áku-n-e* 3.PL *áku-n-an* from Ághii Anárghyri (SL 2950:25) which show use of the *n*-formation also with the vocalic verb *akú-o* 'hear, listen', a verb with stem-final /u/ but no stem alternation (present *akú-o akú-i akú-te*, imperfect *áku-ɣ-a*, aorist *áku-s-a*).

Pighádhi: 1.SG *bórun-a* 3.SG *bórun-an (bor-ó)*[48], originally verb of Type B

   1.PL *travún-ame (travá-o* 'pull')[49], verb of Type A

Ághii Anárghyri:3.SG *filun-e (fil-ó* 'kiss')[50], originally verb of Type B

   1.SG *pétun-a* 3.PL *petún-ane*[51] (*petá-o* 'throw'), verb of Type A

As for the village of Voúrvoura (region of Kynouría-Arkadia) in the respective collections from the archive of the Academy of Athens' Historical Lexicon of the Modern Greek Language (ILNE 346 dated around 1920, ILNE 635 dated from 1942) this formation has not been recorded for the region of northwestern Kynouría (north of 'Inoús' the latter belonging to Lakonia)[52]. But in a demotic song from Voúrvoura published in the review *Laoghrafía* (1911:570) an imperfect form *e-filjun-a* (instead of *e-fíli-y-a*, present *filjó* 'kiss') appears. But demotic songs often "travel", so one could imagine this song having spread to Voúrvoura from the adjacent area of 'Inoús'.

3.2. For Aráchova (now Karyés) Koukoulés records a morphophonemic alternation /n/~/γ/ within the paradigm of the imperfect. The distribution followed, according to Koukoulés (1908:197), the number distinction: /n/ in the singular, /γ/ in the plural:

	SINGULAR	PLURAL
varó 'hit':	*váru*n*a*	*varú*γ*ame*
	*váru*n*es*	*varú*γ*ate*
	*váru*n*e*	*váru*γ*an / varú*γ*ane*[53]

The /n/ and /γ/ can be regarded as having morphemic status ([+perfective]), just like the /γ/ in the imperfects of the *pérnaya-* and *fóriya*-type[54]. The creation of the new morpheme *–n-* is based on the forms of the 1.SG[55] *e-pérnun* and *e-fórun*. Forms like these had become morphologically opaque[56]. The majority of the Peloponnesian varieties simply replaced these forms by totally new and more transparent ones built on the stems with stem-final /a/ (Type A) and /i/ (Type B) by means of the termination *–a* (*e-pérna-(y-)a, e-fóri-(y-)a*), just as they did in the other forms of the paradigm. In the varieties which we are dealing with in this section, except in the variety of Aráchova, the speakers added to the whole "unanalysable" form, in which the morpheme boundaries were lost, the termination *–a* and

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[48] SL 2959:65, 20.

[49] SL 2959:65.

[50] SL 2950:77.

[51] SL 2950:27, 85.

[52] Koukoulés himself records (1908:73) that the variety of Inoús bears very little resemblance to the variety of the adjacent region of Kynouría without going into details about this statement.

[53] Koukoulés (1908:197) regards forms like *borúyame* as blends: *borúname* × *boráyame*. Apart from theoretical difficulties, one could ask why the same process did not take place in the singular giving **bóruya *bórujes *bóruje*. See also Hock (1986:189-192, 197-198).

[54] But see also Babiniotis (1972, p.212), where he proposes a different analysis for this formation: *e-kín-un-a* 'I moved (transitive), I set off' with a suffix *–un-*.

[55] See also Babiniotis (1972:211-213).

[56] Or: 'opacity' see Hock (1986:271-274), Mayerthaler (1980).

then extended the new formation to the rest of the paradigm resulting in e.g. 3.SG *(e-)pérnun-e* 1.PL *(e-)forún-ame* etc. The fact that the *–γ*-formation appears beside the *–n*-formation (alternating freely with the latter) in the collections from Ághii Anárghyri and Pighádhi has two possible explanations: Either both formations coexisted in free alternation from the beginning in the paradigm of the imperfect and none of them has yet ousted the other, or the forms with the suffix *–γ*- have found their way into the varieties of both villages rather recently under the influence of the varieties of adjacent areas or the spoken MGK or even internal change. Judging from what follows with regard to the variety of Arahova the latter explanation is more probable.

As regards the variety of Aráchova (now Karyés) we have an interesting case of number-oriented allomorphy at the level of aspect markers. This allomorphy probably came about as follows: As happened also in the varieties of the other villages of Inoús, in the form e.g. *e-fórun* a loss of morpheme boundary took place. The *–n* was no longer regarded as the ending but as part of the stem. This reanalysis was perhaps brought about by the strong influence other past categories exerted on those of Class II with the termination *–a* carrying the function '1.SG.PAST' in the biggest part of the verbal system. The now "endingless" form was as a whole added the termination *–a* becoming *e-fórun-a*[57]. In the rest of the paradigm which was morphologically more transparent than the form of the 1.SG displaying the "ordinary" endings *–s, - , -me, -te, -n*, the terminations *–es –e –ame –ate –an(e)* were added to the sequences *perna- ~ pernu-* (for Type A) and *fori- ~ foru-* (for Type B) -which were regarded as the stems- yielding *pérna-es pernú-γ-ame* (with /γ/-insertion, later *perná-γ-ame*, see §1.4.) etc. and *fóri-es forú-γ-ame* (with /γ/-insertion, later *fori-γ-ame*, see above) etc. Thus the paradigm of the imperfect must at some point in time have resembled in the variety of Aráhova the following:

SINGULAR	PLURAL
(e-)fórun-a	*(e-)forú-γ-ame*
(e-)fóri-es	*(e-)forí-γ-ate* → *(e-)forú-γ-ate*
(e-)fóri-e	*(e-)forú-γ-ane*

The new alternation /n/~/γ/ between the 1.SG and the 1.PL did not have any phonological basis so it was reanalysed as being connected to a morphosyntactic feature: number. The alternation /n/~/γ/ was correlated with number distinction[58]: the /n/ with the singular and the /γ/, which probably appeared originally only in the plural (before /a/, see §1.4.), with the plural[59]. From the 1.SG the *–n-* spread to the rest of the singular yielding *(e-)fórun-es (e-)fórun-e* as opposed to the plural forms *(e-)forú-γ-ate (e-)forú-γ-ane*. The reason why this alternation did not occur also in the varieties of the other villages of 'Inoús' (Oinoús) lies in the fact that there the emergence of the form *(e-)fórun-a* and the spread of this formation to the rest of the paradigm of the imperfect took place perhaps *before* the emergence of the imperfect formation e.g. 3.SG *(e-)pérna-e* 1.PL *(e-)forú-γ-ame* etc, that is at the stage where forms like *e-pérna- e-forú-me* were still in use. This is furthermore the reason why I think that occasionally appearing forms in *–a-es -á-γ-ame* etc. in collections of material

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[57] A case of "doubling of morphemes" in the sense of Koch (1996:246).

[58] See also Lass (1990:83-87).

[59] See also Koch (1996, Ch.4) and Mayerthaler (1980).

from Ághii Anárghyri and Pighádhi are recent and perhaps due to influence from other varieties or even due to internal change in the varieties of these villages themselves.

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Elkustra

Ámbelos

West Korinthia

Lechená

Lousi

Kryonér

Kértezi

Stroúsi

Ághios Nikólaos

Amaliádha

Ghymnó

Perthóri

Lýrkia

Pasás

Ellinikó

Stenó

Mavríki

Vlachokerasiá

Vérvena

Voúrvoura ?

Alepohóri

Ellinítsa

Arachová

Kókla(s)

Vérvitsa

Skortsinós Kollínes

Vrésthena

Ichalía

Vromóvrysi

Vassarás

Véna

Ághios Flóros

Koukourtichi

Pighádhi

Pelekanádha

Ághii Anárghyri

Tsakonian

Kynighoú

Maniot

	Forms *fór-y-o fór-y-ame fór-y-one*
•	Forms with stem final /e/: *fóre-y-o fóre-j-e* etc.
⊕	Imperfect *fórv-n-a*

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THE DIALECTAL ROLE AND DISCOURSE FUNCTION OF SIX SEMANTIC-INTONATION VARIABLES IN NORTHERN GREEK[*]

Abstract

This paper focuses on the intonation variables in one-word polar questions appearing in the speech of adolescents in Goumenissa, a small mixed town in Northern Greece. Our basic aim is to demonstrate the important role of these intonation variables in the formation of a new regional Koiné. Thus, special emphasis is given to the presentation of the intonation variables, to their semantic delimitation, as well as to their possible combinations and discourse functions.

1   Background (linguistic and non-linguistic) of the area of research

Our paper is based on the material collected for the purposes of the doctoral thesis of Papazachariou (1998β) with the title: *Linguistic variation and the social construction of identity: The sociolinguistic role of intonation among adolescents in Northern Greece.* The data collection was held in the wider area of Goumenissa, a small mixed town in Northern Greece, an area with interesting phenomena of dialect contact and change.

Before discussing the role of the intonation variables in the formation of a new regional Koiné, a brief description of some particularities (linguistic and non-linguistic) of the area is in order. Adolescents in Goumenissa belong to three different groups of origin, i.e. a local -slavophone- group, and two returned refugee groups (East Romylians and Pontics), who settled in the area during the first part of the twentieth century, i.e. from 1914 to 1927. Although most of the middle-aged population (i.e. the parents and grand-parents of the adolescents under study) in the area are bilinguals (only the East Romylians are monolinguals in Greek), the overwhelming majority of adolescents are monolinguals in Greek, being exposed to at least two varieties of Greek that are used by the middle-aged people of the area. Apart from the standard Northern Greek that is used by all middle-aged people, regardless of their local or refugee status, the local middle-aged population also use another Greek variety –a local one, with distinct characteristics at the areas of intonation, segmental phonetics, segmental phonology and syntax –which are presented in the forth section of the paper, that are used neither by the refugee parents nor by any speaker of the standard Northern Greek.

2   Presentation of semantic-intonation variables and their combinations in discourse

During data collection it became apparent that many adolescents used intonation patterns[2] that a speaker of the standard northern Greek variety would not use or recognize. However,

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the linguistic status of these patterns was not clearly identifiable. Were the local intonation patterns absolutely different units from those that exist in the northern standard variety -not only of a different form but also with a different linguistic function- or were they variants of intonation variables that a speaker of the standard Northern variety also uses? The answer to the above question, i.e. the identification of the intonation units, of which the intonation patterns were the realization, was the basis and prerequisite for Papazachariou (1998β), a study that led to the definition of six semantic-intonation variables on one-word polar questions.

In this part of the paper we present the six semantic-intonation variables that appear on one-word polar questions, (for the analytical steps of the definition of these variables, see Papazachariou 1998β). Most of the previous theoretical approaches, with the exemption of Pierrehumbert's theory (1986), agree that a nucleus consists of one tone, i.e. one intonation unit. In our study we realized that nuclei with a similar starting point, similar high peak and similar finishing point could have different internal structures, as will be shown in the third part of the paper. We assume that the differences in the internal structure of a nucleus have semantic consequences which are decisive for the various final discourse meanings that a question can convey, interacting also with other conversational parameters, as will be shown in the third part of this paper. This assumption led us to the recognition of the existence of *two meaningful units* that compose the nucleus of one-word polar questions and, consequently, to the identification of two groups of semantic intonation variables, i.e. the group of the Rising variables, and the group of the Falling variables. Each group consists of three meaningful variables (or units) and one variable from each group appears in succession on one-word polar questions.

We argue that the semantic delimitation of the two groups is based on the common core meaning that the variables of each group have, i.e. the *objective epistemic modality* for the group of Rising variables, and the *subjective epistemic modality* for the group of Falling variables.

The distinction between the two modalities is reflected in the following passage from Lyons (1977:797): "any utterance in which the speaker explicitly qualifies his commitment to the truth of the proposition expressed by the sentence he utters, whether this qualification is made explicit in the verbal component (...) or in the *prosodic* (our emphasis) or paralinguistic component, is an epistemically, modal or modalized, utterance. In principle, two kinds of epistemic modality can be distinguished: objective and subjective".

In an objectively modalized utterance, the speaker is committed to the factuality of the information that he is giving to the addressee (Lyons, 1977:799) and the reservations he expresses for the truth of the propositional content are due to real world factors, "relative to what is known" (Lyons, 1981:237). In a subjectively modalized utterance, there is an overt indication of the speaker's unwillingness or inability to endorse, or subscribe to, the factuality of the proposition expressed in his/her utterance (Lyons, 1977:799-800) and the expressed reservations arising from his/her lack of sufficient evidence are "agent's qualification" (Lyons, 1981:238). The objective epistemic qualification of a propositional

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[2] With this term we refer to the movements of pitch, which are created by the vibration of the vocal folds while the air passes through the larynx during the production of speech. The pitch is calculated in Hz and is represented by the fundamental frequency of the human voice (i.e. the fundamental harmonic).

content concerns the proposition - real world relationship, whereas the subjective epistemic qualification concerns the stance of the speaker towards the content of his/her utterance (for the above, see also Πολίτης, 2000:15-51).

It is well attested (see, for example, Lyons, 1977, 1981, cited above) that epistemic modality (either in its objective or in its subjective form) is a gradable notion, which extends over a continuum with various values. We have already identified the group of Rising variables, claiming that their common core meaning is the objective epistemic modality. We can moreover assume that this meaning can be specified by the three intonation variables of this group as great, little or fifty-fifty likelihood that the propositional content of the one-word polar questions is true. Similarly, we assume that the subjective epistemic meaning, i.e. the common core meaning of the Falling variables, can be specified as great, little or fifty-fifty certainty of the speaker that the propositional content of the one-word polar questions is true.

To sum up, it should be pointed out that the assumption that the nucleus in one-word polar questions is constructed by two meaningful intonation variables, which can be combined in various ways, was the key to understanding the particularities of the adolescents' intonation system (where co-existence of the local and the standard forms takes place). Moreover, this construction proved crucial in establishing the difference between the intonation system of adolescents and that of the middle-aged population. In what immediately follows we analytically present the six semantic-intonation variables of the adolescents' intonation system.

2.1 The group of Rising variables
The first group of intonation variables (three all together) has a rising (or according to Gussenhoven (1983), a LH) form as their standard realization and a flat form as their dialectal realization. Each variable has a different starting and finishing point, and all of them start on the stressed syllable of the word[3]. The semantics of this group is related to objective epistemic modality, that is to the degrees of the speaker's commitment to the truth of the propositional content according to real world factors. Each of the three variables expresses a different degree of objective commitment, i.e. great, little or fifty-fifty likelihood that the propositional content of the one-word polar questions is true.
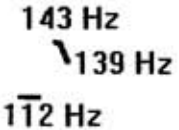
2.1.1 The Low Rising variable
The Low Rising variable is produced with a rising (LH) movement near the baseline and finishes between 100 Hz to 140 Hz for boys and 200 Hz to 270 Hz for girls. With this variable, the speakers indicate that there is great likelihood that the propositional content of their question is true.

The Low Rising variable also has a flat local variant (ex. 5), which appears at the same position as the rising variant, i.e. near the baseline.

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[3] All theories of intonation converge on the assumption that the tones are allocated on the stressed syllable of the nucleus (or the equivalent of nucleus in each different theory).
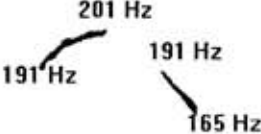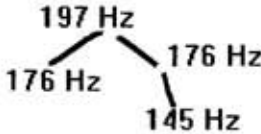
Table 1: Questions with a Low Rising variable as the first part of the intonation curve

130 Hz 127 Hz 124 Hz 98 Hz (1) /oγδoda---[4]---'e---------na?/ *Eighty one?*	138 Hz 125 Hz 123 Hz 114 Hz (2) / 'ne?/ *Really ?*
168 Hz 143 Hz 140 Hz 130 Hz (3) /'pe-------zi?/ *Is it recording ?*	127 Hz 126 Hz 124 Hz 121 Hz (4) /apo 'tsa----pa?/ *From a spade ?*
143 Hz 139 Hz 112 Hz (5) /o aδel-'fo-su?/ *Your brother?*	
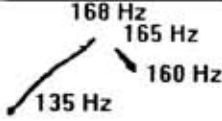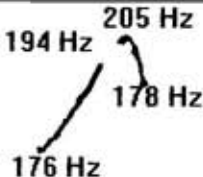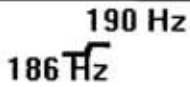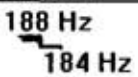
2.1.2 The High Rising variable

In the speech of male adolescents, the High Rising variable finishes higher than 160 Hz, usually around 200 Hz, and in the speech of female adolescents it finishes higher than 330 Hz, up to 400 Hz. With this variable, speakers indicate that there is little likelihood of what they are asking being true. The High Rising variable also has a flat local variant (ex.10, 11).

Table 2: Questions with a High Rising variable as the first part of the intonation curve.

201 Hz 191 Hz 191 Hz 165 Hz (6) /δen 'i---------xe?/ *There werent any ?*	197 Hz 176 Hz 176 Hz 145 Hz (7) /'vul--γa--ros?/ *Bulgarian?*

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[4] Spaces are used in order to clarify the correspondence between a syllable and its intonation. Moreover, the images show only the F0 of the vowels, in order to present the internal structure of word's intonation.

168 Hz
    165 Hz
      160 Hz
135 Hz
 	
(8)   /'pe------zi?/
        Is it recording?
	205 Hz
	194 Hz
	    178 Hz
	176 Hz
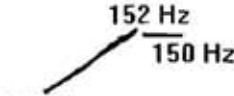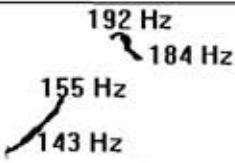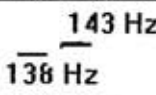	
	(9) /to 'pi------re?/
	        Did he get it?

190 Hz
186 Hz
 	
(10)   /o ksaδel-'fo-su?/
         Your cousin ?
	188 Hz
	184 Hz
	
	(11) /sto kil--'kis?/
	         At Kilkis?

2.1.3 The Middle Rising variable

This variable did not appear very frequently in the male adolescents' speech in our corpus, but it is quite common in the speech of female adolescents. The Middle Rising variable finishes between 140 Hz -155 Hz in the boys' speech and between 280 Hz - 320 Hz in the girls' speech. This variable expresses a fifty-fifty likelihood of what the speaker asks being true and it is expected in real polar questions.

      The Middle Rising variable also has the characteristic flat local variant (ex.14).

Table 3: Questions with a Middle Rising variable as the first part of the intonation curve

152 Hz
    150 Hz
140 Hz
 	
(12)   /ap' 'tsa--------pa?/
        From a spade?
	192 Hz
	    184 Hz
	155 Hz
	    143 Hz
	
	(13) /apo 'tsa-------pa?/
	        From a spade?

143 Hz 138 Hz (14) /o 'mar-kos?/ *Markos?*	

2.2 The group of Falling variables

The second group of intonation variables (three as well) have a falling (or, according to Gussenhoven (1983), a HL) form as their standard realization and a flat form as their dialectal realization. The Falling variables are defined in relation to the finishing point of the preceding Rising variable. The group of Falling variables refers to subjective epistemic modality, i.e. to the degrees of the speaker's commitment to the truth of the propositional content according to his/her own subjective experience. Each of the three variables expresses a different degree of subjective commitment, i.e. great, little or fifty-fifty

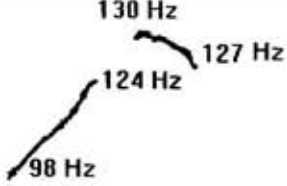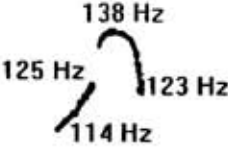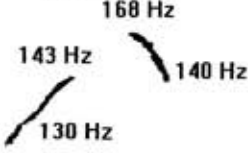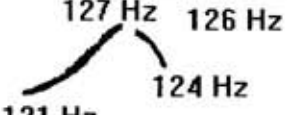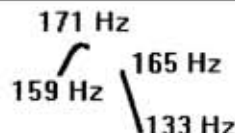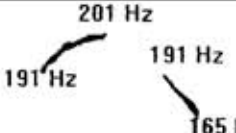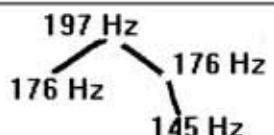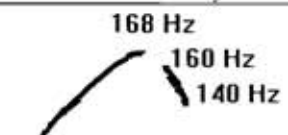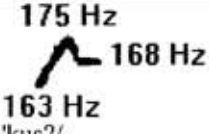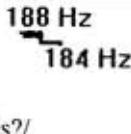certainty of the speaker that the propositional content of the one-word polar questions is true.

2.2.1 The Low Falling variable

In particular, when the falling movement begins lower than the finishing point of the previous rising movement, the speaker expresses his/her great certainty about the truth of the propositional content of his/her utterance.

This unit also has a variant with a flat local form (ex. 19, 20) that appears lower than the finishing point of the previous -Rising- variable.

Table 4: Questions with a Low Falling variable as the end of the intonation curve
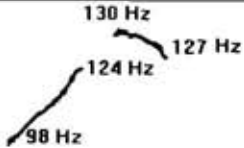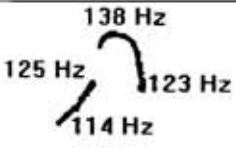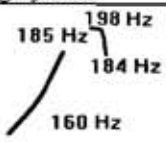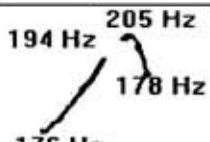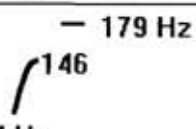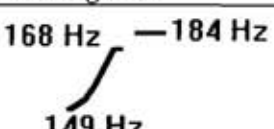
171 Hz 165 Hz 159 Hz 133 Hz (15) /me 'ko-smo?/ *Crowded?*	201 Hz 191 Hz 191 Hz 165 Hz (16) / δen 'i----------xe?/ *There werent any ?*
197 Hz 176 Hz 176 Hz 145 Hz (17) /'vul--ɣa--ros?/ *Bulgarian?*	168 Hz 160 Hz 140 Hz 130 Hz (18) /'me-------sa?/ *Inside ?*
175 Hz 168 Hz 163 Hz (19) / a---'kus?/ *Are you listening?*	188 Hz 184 Hz (20)/ sto kil--'kis?/ *At Kilkis?*

2.2.2 The High Falling variable

When the Falling variable begins higher (i.e. from a higher Hz frequency) than the finishing point of the previous Rising variable, the speaker is indicating his/her little certainty about the truth of the propositional content of his/her utterance.

Again, this unit has a flat local variant (ex. 25, 26), which appears higher than the finishing point of the previous -Rising- variable.

Table 5: Questions with a High Falling variable as the end of the intonation curve

130 Hz 127 Hz 124 Hz 98 Hz (21) /oyδoda-----'e---------na?/ *Eighty one?*	138 Hz 125 Hz 123 Hz 114 Hz (22) /' ne?/ *Really?*
198 Hz 185 Hz 184 Hz 160 Hz (23) /'δiplo-ma?/ *Driving licence ?*	205 Hz 194 Hz 178 Hz 176 Hz (24) / to 'pi-----re?/ *Did he get it?*
— 179 Hz 146 124 Hz (25) /in a--'li---θia?/ *Is it true?*	168 Hz —184 Hz 149 Hz (26) /i 'man--dra?/ *The fence?*
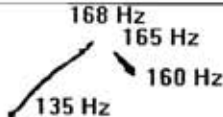
2.2.3 The Middle Falling variable

The adolescents in our study have another alternative, i.e. to express a fifty-fifty certainty and actually avoid signaling their subjective commitment to the propositional content of their utterance.

This is possible either with a small falling movement (less than 5 Hz), that starts almost at the same level as the finishing point of the previous rising movement, when the word is stressed on the penultimate or antepenultimate syllable (like 30 and 31), or with the absence of the falling movement altogether, when the word is stressed on the ultimate syllable, like (27). This variable was quite rare in the speech of male adolescents in our corpus, but it appeared more frequently in the speech of female adolescents. Examples of this variable appear in table 6.

As in the previous two units, the Middle Falling also has a flat local variant (29).

Table 6: Questions with a middle-Falling variable as the end of the intonation curve

200 Hz 166 Hz (27) /ikosio-----'xto?/ *Twenty eight?*	168 Hz 165 Hz 160 Hz 135 Hz (28) /'pe-----zi?/ *Is it recording?*

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        152 Hz
              150 Hz

      140 Hz
(29)  /ap' 'tsa---pa?/
      From a spade?
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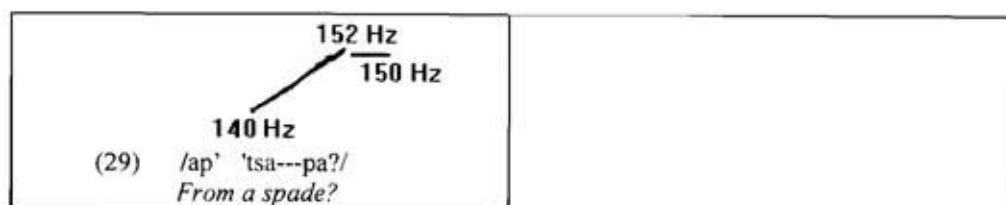
3 The combinations of the semantic-intonation variables and their contribution to the final discourse meaning

Having finished with the brief presentation of the meaningful Rising and Falling variables and their flat variants, we would like to draw attention to the following points, before we exemplify their uses in discourse:

According to our data, in the speech of adolescents every -out of three- Rising variable, which expresses an objective epistemic commitment, can be combined with every -out of three- Falling variable, which expresses a subjective epistemic commitment. The meaning of the combined intonation variables applies to the propositional content of the question, qualifying it in various epistemic ways. Our data verify all the nine possible combinations of intonation variables.

The epistemic meanings of the two sets of intonation variables that we defined remain the same, irrespective of context (as Bolinger, 1951, Brazil, 1985, Gussenhoven, 1983, 1984, 1986, and Pierrehumbert & Hirschberg, 1990 argue). However, the final discourse meaning of a question is not only due to the semantics of intonation -as many scholars of the British Tradition maintained (cf. O' Connor & Arnold, 1961, Crystal. 1969. Halliday, 1967, 1970)-, but it is also a result of the combination of the *semantics of intonation* both with *the semantics of the sentence*, the former qualifying the latter in various epistemic ways, as well as with *the conversational structure and the shared knowledge* of the interlocutors. Therefore, the final meaning of the questions cannot be accounted for without consideration of the wider discourse context.

Thus, in what follows we shall show how different internal structures of intonation contours, which means different combinations of objective and subjective modalities, contribute to -but do not determine in a straightforward fashion- the final discourse meaning of one-word polar questions. Our exemplification will be based on politeness strategies, as in this locus the role of intonation is more than important (see Brown & Levinson, 1987). In other words, we will see how the different combinations of the meaningful intonation variables, and in particular how a Low Rising with a High Falling one and how a High Rising with a Low Falling one, can be used as realizations of specific politeness strategies.

The dialogue in (30) comes from a conversation the topic of which is the day of a party that would be held in one of the popular coffee shops of the research area. Speaker B starts the conversation presupposing that the day of the party is Wednesday. Speaker R immediately confronts him with what he thought was the correct date, a piece of information that seems to surprise speaker B. The latter insists on his opinion in a mitigated way. Speaker R continues in the following way:

30) R: / no'miz' ot' 'itan 'triti, γia'ena ke'nurγio 'snap/
    I thought it was on Tuesday, to try a new snap

      138 Hz

125 Hz   **123 Hz**

    114 Hz
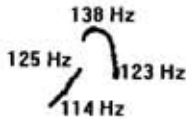
B: / 'ne-e?/
    Really?

R: /ek'tos an 'ine 'alo a'fto γia to 'snap ke 'alo to 'parti./
    unless the two are different occasions -the snap thing and the party.

What is of interest in this dialogue is speaker's B reaction (the *ne* question) to the mild but supported by evidence insistence of speaker R. In particular, with the intonation he chooses to utter the reflex one-word polar question, he puts on a specific strategy of polite disagreement aiming, on the one hand, to save his interlocutor's positive face, that is his wants to be desirable to at least some others (Brown & Levinson, 1987:62), while, on the other, to keep on expressing his disagreement. The positive component of face is threatened exactly because of the expression of the disagreement[5]. In Brown & Levinson's (1987:113) words, speaker B seems to select the *Avoid disagreement* strategy according to which the desire to agree or appear to agree with hearer leads the speaker to mechanisms for pretending to agree (Brown & Levinson, 1987:113, see also Πολίτης & Αρχάκης, 2000:466). Speaker B manages to perform this polite disagreement strategy, because with the intonation variables he imposes on his question he declares, according to our previous semantic identification of the intonation variables, that "there is great likelihood that what I am asking is true (Low Rising variable), but I am still not certain about it (High Falling variable)". Presumably it is this politeness strategy that forces Speaker R to be, after all, concessive in his next turn. The combination of Low Rising and High Falling variables in echo and reflex questions can function as a politeness strategy, because, on one hand, the meaning of the Low Rising variable does not challenge the previous statement of the interlocutor since it presents its truth as objectively highly probable and thus does not threaten his interlocutor's positive face, while, on the other hand, the meaning of the High Falling variable, where the disagreement can be detected, expresses only the speaker's subjective doubts.

The dialogue in (31) shows another interesting combination of the meanings of the intonation variables and its discourse consequences in a, this time, (im)polite strategy. The topic of this conversation is the bad performance of the national basketball team at an international match. In his previous turns speaker C has put the blame mainly on the referees. Speaker R goes on as follows:

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[5] This interpretation of speaker B's reaction was confirmed by ten more young speakers. In particular five of these adolescents were asked to define the meaning of this question. Two out of five replied "doubts of the speaker", while three out of five replied "polite objection". Another group of five adolescents who were asked to provide an alternative expression that would cover the same meaning, replied: "I am not really convinced" -two out of five-, "I still have some doubts"- two out of five- and "are you really sure?"

(31) R: /'ekane o 'vulɣaros se 'kapies 'fasis 'kapies xo'draðes 'ala ðen//[6]
    At some points, the Bulgarian (referee) was lousy but no

<div align="center">

197 Hz

176 Hz   176 Hz

176 Hz

145 Hz

</div>

C:/   'vul--ɣa--ros?
                                                             Bulgarian?
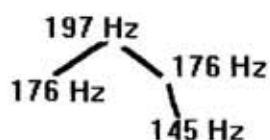
    'rosos/
    you mean the Russian.
R: /'rosos 'rosos, si'ɣnomi 'rosos/
    Russian, Russsian, sorry the Russian

       In this dialogue speaker C interrupting speaker R provides a correction to speaker R's contribution in relation to the previously wrongly mentioned referee's nationality. That is, he puts on the repair mechanism (cf. Schegloff, Jefferson & Sacks, 1977) by means of which speakers locate and accommodate problems or troubles in interaction. The repair apparatus works through hierarchically ranked discourse choices where the self-initiated self repair is the most preferable, and the other-initiated other-repair is the least preferable (cf. Levinson, 1983:341-2). According to some conversation analysts (cf. Makri-Tsilipakou, 1991:82 ff, Sifianou, 1999:222, 227) this preference organization is closely related to the need of avoiding face-threatening activities. Thus, as Sifianou (1999:227) puts it, by allowing self-repair to precede other-repair, interlocutors appear considerate both to their own face needs and to those of the other.
       In example (31) speaker C, being the one who initiates and provides the repair, selects the most face-threatening opportunity without using any kind of prefaces. Of particular interest is, however, that his direct opposition is clearly obvious even from the initiation part of the repair because of the combination of the intonation variables he selects for the performance of the first part of the repair, that is the utterance of the echo one-word polar question *vulɣaros?*.[7] In particular, speaker C combines the High Rising intonation variable (i.e. there is little likelihood that what I am asking is true) with the Low Falling intonation variable (i.e. I am highly certain about the truth of the whole propositional content of the utterance). With this choice speaker C challenges his interlocutor's previous statement presenting a disagreement with it, while at the same time shows his own high degree of certainty about the presented disagreement. In this way, a face-threatening act is

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[6] Double slash, viz. //, indicates interruption.
[7] This interpretation of speaker C's reaction was confirmed by ten more young speakers. In particular, the first five adolescents who were asked to define the meaning of this question interpreted it as: "strong opposition" -two out of five-, "clear opposition of the speaker to the previous statement", "forced negation", and "strong expression of opposite knowledge". The other five adolescents who were asked to provide an alternative expression used expressions like: "no way!!!" -three out of five-, "you are wrong" and " it is not true".

performed baldly on record, without any redress (Brown & Levinson, 1987:69). Under this attack Speaker R immediately accepts the repair and apologizes for his previous mistake.

It is worth noting, however, that this strategy is normally avoided when the interactants are not on very intimate terms. In our data it is not rare between male adolescents, who share many common social ties in the community, and thus their fellowship relations and their faces cannot actually be threatened.

4   The role of the intonation variables of one-word polar questions in the formation of a new Koiné dialect

So far, we have presented the linguistic description of the intonation variables under investigation and we have given examples of their combinations from real discourse extracts. In this section we will describe the role of these intonation variables in the formation of a new Koiné dialect in the area.

As we mentioned in the first part of this paper, the local middle-aged population also uses a local Greek variety with distinct characteristics from the standard Greek at the areas of intonation, segmental phonetics, segmental phonology and syntax. One of the most distinct differences of the local dialect with respect to the standard Northern Greek is reflected in the semantic-intonation local variants that appear on polar questions. Along with this distinct intonation difference, there are also differences at the phonetic level. The local variety makes frequent use of tense vowels (like [ɪ], [e] and [æ]), in contrast to the other varieties, which have mainly lax vowels (like [i], [ɛ] and [a]). A further phonetic difference between the two varieties is that speakers of the local variety mainly use the palato-alveolar fricatives [ʃ] and [ʒ], while speakers of the other varieties use the alveolars [s] and [z] respectively.

The local Greek variety -but not the standard one- allows for the possibility of unstressed vowel deletion; for example, the standard pronunciation of the word 'dog' is [ski'li]; in the local dialect the word is pronounced ['ʃkli]. This phonological alteration is also common in other regional Greek dialects of Northern Greece.

A further difference between the local Greek dialect and the standard appears at the syntactic level. In particular, in the standard Northern Greek, some connectives -at least- occur at the beginning of subordinate clauses, for example:

32) /a'fu to 'kseris, 'ti ro'tas?/[1]
    Since you know it, why are you asking?

In the local variety, on the other hand, the conjunction appears at the end of the subordinate clause:

33) /to 'kseris a'fu, ' ti ro'tas?/
    You know it since, why are you asking?

Interestingly, local adolescents in Goumenissa do not use any other of the marked characteristics of the local dialect apart from the local intonation variables. Furthermore, all

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[1] The Greek excerpts in the examples are given in a phonological transcription. The English translation is only approximate in order to give an equivalent that makes sense in English.

adolescents, regardless of their group of origin, use the local variants of the semantic-intonation variables. The attrition of the marked features of one of the dialects in contact, along with the adoption of one salient dialect feature, i.e. the local intonation variables on polar questions, by all the adolescents, irrespective of their group of origin, is characterized as **levelling**, an important parameter in the formation process of a new Koiné (Trudgill, 1986). It should be pointed out that the adoption on the part of the adolescents of the local forms of the intonation variables does not level out their standard forms, but both co-exist as variants.

Nevertheless, the system of meaningful intonation variables that appear on one-word polar questions presented in sections 2 and 3 is that of the speech of adolescents, who produce all the possible combinations (i.e. nine out of nine). However, the local intonation system that the middle-aged locals use is not exactly the same. In particular, middle-aged locals[8] seem to use only four intonation variables, i.e. the Low Rising, the High Rising, the Low Falling and the High Falling. Furthermore, in the sample of middle-aged people that was studied, there was no combination of Low Rising and Low Falling variables, an absence that limits the regularity of the system (i.e. three combinations out of the possible four). Finally, middle-aged locals do not combine local and standard forms, using only a combination of the flat forms when they use the local variety.

Comparing the two intonation systems, that of the adolescents and that of the middle-aged locals, we can claim that the system of adolescents is more regular, as it presents two more variables, thus allowing for the expression of intermediate degrees of epistemic modality. This development increases the creativity of the adolescents' intonation system and its possible pragmatic exploitations, as adolescents have at their disposal five more possible meaningful combinations in order to comment epistemically on the propositional content of one-word polar questions. Moreover, the system of adolescents employs all the possible combinations of the two sets of intonation variables (i.e. nine out of nine), as opposed to the system of the middle-aged, which employs only three out of the possible four combinations. Finally, middle-aged locals do not combine standard and local forms, a limitation that does not exist in the speech of adolescents, who can combine local and standard forms in one intonation contour.

The increase of regularity is a characteristic phenomenon of dialect contact and has been defined as **simplification** (Mühlhausler, 1985, Trudgill, 1986, Hinskens, 1992, Kerswill, 1994, 1995, Britain, 1997a, 1997b). Therefore, in view of our observations in the preceding paragraph, we can speak of simplification in the case of this particular dialect.

A further step of simplification, according to Trudgill (1986), is the linguistic or sociolinguistic **reallocation** of the simplified linguistic units or variables, i.e. their different linguistic or sociolinguistic function or reference. Interestingly enough, our data present a sociolinguistic reallocation of the intonation variables under study in the speech of adolescents. In particular, the local forms of the intonation variables under investigation expressed the local identity of their users, in opposition to the refugee identity, as they were used only by the local Greeks and not by the immigrants. However, as we mentioned at the beginning of section 4, this situation has changed in the group of adolescents, as all of them, irrespective of their group of origin, use the local variants. Moreover, statistical tests showed that there is no significant correlation between the percentages of local forms and the group of origin of adolescents. It seems that different parameters are reflected through

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[8] Based on a small comparative study of the speech of three middle-aged locals.

the use of the local variants. In particular, observations based on ethnographic methods of data collection and verified by statistical analysis (Παπαζαχαρίου 1998α) led us to realise that young male adults in Goumenissa, irrespective of their group of origin, express their Goumenissian identity and their membership in the local community by using the local forms of the six meaningful intonation variables.

Trudgill (1986), in a thorough study of dialect contact phenomena (i.e. dialect mixture and new dialect formation) that appear in many different languages and under different contact conditions, defines **koinéization**, the formation of a new dialect, as the result of the combination of dialect levelling and simplification –with or without reallocation. In view of the results of our study, the linguistic variety that adolescents use in everyday casual situations can be easily characterized as a new Koiné dialect, as it has undergone both dialect levelling, (i.e. the loss of phonetic, morphological and syntactic variants that belonged to the local Greek variety, as well as the adoption of the local intonation forms of all adolescents irrespective of their group of origin), simplification, and reallocation.

5   Conclusions

In this paper we argued about a new approach to the definition of semantic-intonation variables on polar questions as they appear in a northern Greek dialect. In particular, we argued that the intonation contour that appears on one-word polar questions in this particular dialect is composed of two intonation variables. The first variable is selected out of a group of three and it can indicate different degrees of objective epistemic modality; the second is selected out of another group of three, indicating different degrees of subjective epistemic modality. We also tried to present the importance of the composition of these two meanings -which are also combined with the propositional content of the question- and their necessity to the realisation of final meaning that a polar question takes in a conversation. Finally, we described the important role of these intonation variables in the formation of a new regional Koiné dialect through the processes of levelling, simplification and reallocation.

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PLURAL SUFFIXATION SKILLS IN CYPRIOT-GREEK CHILDREN WITH SPECIFIC LANGUAGE IMPAIRMENT

Abstract

The current investigation examined plural suffixation skills in preschool children with specific language impairment (SLI). Predictions were made vis-à-vis the following hypotheses: (1) Feature Blindness hypothesis (FB) that could predict an across the board difficulty in producing correct inflectional markers; (2) Low phonetic substance hypothesis (LPS) that would predict a selective deficit on plural formation with particular difficult) with targets on which pluralization requires the addition of a syllable (i.e.. "pappu-s" Sg (grandfather) vs. "pappu-des" P) (grandfathers)) or addition of morphophonological {-s} (i.e., "bala" Sg "ball" vs. "bal-es" Pl "balls"). Participants were six Cypriot-Greek speaking children with SLI ages 5:6 to 5;10 and six children with normal language skills. The two groups were matched for age, non-verbal intelligence, socioeconomic status and gender. The study employed a novel word paradigm (e.g., Berko, 1958). Children had to provide the correct plural inflection when presented with carrier targets in the singular form (i.e.. "Here you have one [yupi]. Here you there are __ target->[yupia]). The dependent variable was the percentage of errors from a set of 148 targets (51 novel words and 97 common nouns). Data analysis suggested that on novel targets performance by the control group was significantly better when compared to the SLI group. Errors within the SLI group were characterized by incorrect use of particular inflection, by omission of morphophonological {-s}, and by overuse of particular inflections such as plural feminine. Overall, the two groups presented with parallel profiles in pluralization skills, although the SLI children did so in a less consistent manner when compared to normally developing peers. The variability of responses supported neither hypothesis. To the first approximation pluralization skills in children with SLI may be governed by the frequency of the inflection within the language in a synergistic relationship with the phonological saliency of the plural marker.

Introduction

Specific language impairment (hereafter referred to as SLI) is used to describe children with remarkable linguistic deficits in the face of normal non-verbal intelligence, hearing status, neurological and emotional status (e.g., absence of autism). The diagnosis is based on exclusionary criteria that rule out any pathological condition that may cause a language disorder (Stark & Tallal, 1988; Leonard, 1998). The prevalence of SLI is 7%. It affects more boys than girls and there are reports of familial aggregation indicating that SLI might be hereditary (Gopnik & Graco, 199, Ullamn, 1999, Tomblin, 1989, 1992, 1995). Children with SLI form a heterogeneous group. If one considers the overall linguistic profiles of these children, the picture is consistent with a moderate language deficit across all linguistic parameters and a remarkable difficulty in the use of morphological elements (omission and misuse of bound and free-standing morphemes such as articles, clitics, verb and noun inflections).

During the last ten years there has been a keen interest in the cross-linguistic investigation of SLI. Languages studied include ap : from English. Italian (Cipriani et al., 1991; Leonard, Bortolini,

Caselli, McGregor, Sabbadini, 1992), German (Clahsen, 1989), Hebrew (Dromi, Leonard, & Shteinman, 1993), and Greek (Dadalakis, 1994; Petinou & Terzi, in press). Converging evidence indicates that morphological deficits are robust in children with SLI of various linguistic backgrounds (e.g., Italian, Hebrew, German, and English). For example, in Italian and Hebrew children with SLI have selective deficits when it comes to using the appropriate noun or verb inflection. These deficits are governed by phonological factors such as the presence of a word final vowel. Cross-linguistic investigations are of particular interest especially within the realm of inflectional morphology. This is because the typology of a given language allows the testing of certain hypotheses to explain the nature and underlying deficit associated with SLI. For example in highly inflected languages such as Italian and Greek one can make specific predictions on what is spared and what is erred vis-à-vis the different theoretical proposals.

Theoretical frameworks

Different models have been proposed to determine the nature of SLI and the mechanisms responsible in explaining morphological deficits, in this investigation we focused on two prominent frameworks regarding inflectional morphology and SLI. These included the Feature Blindness hypothesis (FB) (Gopnik& Grago, 1991) and the Low Phonetic Substance hypothesis (LPS) advanced by Leonard and his colleagues (Leonard et. al., 1998). According to the LPS hypothesis, morphological deficits stem from difficulties in processing elements of low phonetic substance. Morphological inflections (e.g., articles, clitics, plural and possessive {-s}) become less salient because they are usually unstressed, do not correspond to real word referents, occur at prosodically vulnerable feet within the utterance and are shorter in duration when compared to adjacent morphemes. In addition, they are subjected to common phonological processes such as final consonant and unstressed syllable deletions. The locus of the deficit is morphophonological. That is the child need not only to hear the final {-s} but also to hypothesize it as a morphophonological element and put it in the appropriate word specific paradigm (Leonard, 1998; Pinker, 1984). SLI children have the ability to perceive final consonants, but processing capacity (to use Leonard's exact wording) is "taxed" when these elements assume morphophonological role. For example final consonant [t] in 'raft' will be easier to hypothesize than final consonant [t] in 'laughed', because in the latter case the target is morphophonological {-ed} past tense. On parallel grounds, the final [-es] in the Greek word [ps-es] (last night), should theoretically be easier to perceive, hypothesize and produce than comparable {-es} in the word [bal-es] (balls).

On the other end of the theoretical spectrum, the MFH postulates that the linguistic deficits seen in children with SLI are attributable to the lack of rule formation in the grammar system suggesting that individuals with SLI lack the features of person, number, gender, and tense from the underlying grammar. Here the deficit is rule based and its locus is morpho-syntactic (Gopnik & Graco, 1991; Ullman, 1999). The base of this framework evolves from a possible dual mechanism that may govern the representation of regular and irregular targets (cats vs. mice). Children with SLI do produce a form that resembles plural {-s}, but the form is assumed to be an unanalyzed portion of a memorized lexical item (direct lexical route in learning particular words on the bases of memorization). Consequently, the linguistic deficits exhibited are governed by an overall rule-based deficit.

Whether or not such scenario occurs in Greek SLI warrants further investigation with the exception of one recent study that employed a novel-word paradigm in studying pluralization skills in Greek children with SLI (Dadalakis, 1994). The error patterns included the use of the singular instead of plural inflection (50%), the substitution of real words instead of nonce word target (9.8%), and the over use/preference of one morpheme (30%). The study concluded that Greek children with SLI had difficulty with implicit rules governing pluralization, a position favoring the FBH. However, the results should be interpreted with caution, due to the variability of responses and to methodological issues including the restricted range of word targets employed, the wide age range of subjects (6-17 years), and the lack of

control group. The variability of responses and the differential treatment of particular morphological inflections warrant further investigation and interpretation.

Purpose of the investigation

In the current investigation we examined plural suffixation skills in Cypriot-Greek preschool children with SLI. Predictions were made vis-à-vis the two aforementioned proposals. The SH hypothesis would predict a selective deficit on plural formation with particular difficulty on targets requiring the addition of a syllable in the process of pluralization (i.e.. "pappu-s" Sg (grandfather) vs. "pappu-d-es" P) (grandfathers)) or addition of morphophonological {-s} (i.e.. bala" Sg "ball" vs. "bal-es" Pl "balls"). Overall the SH would predict a progressive difficulty starting with what should be the least to what should be the most difficult inflection for a child with SLI to produce: vowel stressed< vowel unstressed< vowel consonant stressed< vowel consonant unstressed< addition of a syllable.

The FB hypothesis would predict an across the board difficulty in producing correct inflectional markers. Because the study employed a novel-word paradigm (e.g., in the form of Berko's "WUG" test (1958)), we predicted that children with SLI would have particular difficulty in producing the correct inflection on novel-word targets.

In this investigation the following research questions were advanced: (a) Do the deficits seen in Greek children with SLI stem from rule-governed bases or do they vary as a function of the phonological characteristics of each stem? We wanted to provide a more rigorous investigation of the types and patterns of errors exhibited regarding inflectional morphology by zeroing into the errors: (b) Do Greek children with SLI show typical or atypical pattern of development at least in the realization of inflections. This is crucial question because it will tell us a lot about the nature of developmental language deficit including the mechanisms employed by children with SLI in dealing with challenging linguistic elements.

The morphological system of Modern Greek

The grammatical categories of MG are gender, case, and number. Gender distribution of nouns neuter> feminine>masculine. Gender is usually determined by the morphological/inflectional paradigm in which it belongs. There are three definite articles 'o', 'I', 'to' corresponding to masculine, feminine, neuter gender in nominative case respectively (singular number). 'T' 'I' and 'ta' are the counterpart articles in the plural number. There are four cases including nominative, genitive, accusative, and vocative to which the corresponding inflectional marker is assigned as a function of gender and number (see table 1)

Methodology

Participants

Participants were six Cypriot-Greek speaking children with SLI ages 5;6 to 5;10 and six normally developing children of comparable ages who served as the control group. The two groups were matched for age, non-verbal intelligence, socioeconomic status and gender. Non-verbal intelligence was measured with the Raven's Colored Progressive Matrices and socioeconomic status was determined based on a list published by the Cyprus Ministry of Internal Affairs (1989). All children had Greek as their dominant language. Table 2 presents demographic information.

Documentation of SLI

The clinical diagnosis of SLI was determined by two certified speech language pathologists. The diagnostic criteria were based on the exclusionary list adopted by Stark & Tallal (1988) and Leonard (1998). In addition, suggestions by Dunn, Fax, Sliwinski & Aram (1996) were considered regarding the use of spontaneous language measures as criteria for identifying SLI. Based on language samples collected during the diagnostic procedures the 100 utterances were analyzed for grammatical errors including: Omission of articles in obligatory contexts, clitic misplacement, incorrect suffixation of plural

targets, agreement errors, omission of negation and reduced mean length of utterance in words (MLUW).

Procedures & Stimuli

The study employed a novel word paradigm (Berko, 1958). This task was employed in order to test children's ability to use grammatical morphemes with nonce words. Grammatical morpheme use with nonce words cannot be attributed to rote learning. Children had to provide the correct plural inflection when presented with carrier targets in the singular form (i.e., "Here you have one [yupi]. Here you there are __ target->[yupia]). The examiner presented the child with a book containing the targets depicted on black-white line drawings. Stimuli included a total of 148 items, 97 familiar and 51 unfamiliar/novel targets all distributed across the three genders and were constructed according to Greek phonotactic rules, but were non-existent words. Usually the initial and middle phoneme was changed from a real word to a novel word (e.g.. [melisa] (bee)->[mekasa] (a novel item depicting a funny looking figure)). To ensure that the children's phonological abilities were not obstacles to the use of grammatical morphemes of interest all had to scored above 80% on a picture naming articulation test requiring them to produce final consonants in monomorphemic words ([emis], [pses], [petaludes]).

Data and response coding

Each session was tape-recorded and phonetically transcribed using the International Phonetic Alphabet (IPA). Point-by-point transcription reliability on the novel word and familiar word targets based on a sample from four children was 100% for familiar targets and 88% for novel word targets. Error patterns were coded according to the following criteria:

1. Omission of inflection (bare stem) resulting in lack of pluralization
2. Substitution of the target inflection.
3. No response
4. Neologisitc responses (a nonsense word that did not correspond to the actual target)
5. Substitution of unfamiliar with a familiar target (thospi —> klosti)
6. Final consonant deletion and stress change

Results

The dependent variable was the proportion of errors observed within each experimental paradigm (familiar vs. novel word task). Proportions were transformed to arcsines before any statistical analyses were employed. A three way analysis of variance was performed with group (SLI vs. NLD) as the between subject variable and task (familiar vs. novel) and noun gender (masculine, feminine, neuter) as the within subject variables. Statistical analyses revealed a group main effect, F $(1,10) = 9.35$, $p<.01$, suggesting that proportion of errors within the SLI ($M = .35$) group was significantly larger that proportion of errors exhibited by the NLD group ($M = .19$). A task main effect was also significant indicating that regardless of experimental group and gender category, more errors were made on the novel ($M = .39$) than the on familiar task ($M = .15$), $F(1, 10) = 39.84$, $p < .01$ (Figure 1). Gender main effect also reached statistical significance, $F(2,20) = 12.85$, $p < .01$ (Figure 2). Post- hoc Tukey main effect revealed that the fewest errors were made on feminine targets when compared to the masculine and neuter targets. No significant differences were revealed between masculine and neuter. The only interaction that reached statistical significance was task (familiar vs. novel words) by noun gender categories, $F(2,20)= 21.13$, $p< .01$ We observed that the proportion of errors increased dramatically in favor of the neuter and masculine gender especially during novel tasks for both groups. Figure 3 presents the overall performance of each group as a function of all tasks. In sum, the differences observed between the two groups were quantitative rather than qualitative in nature in nature. Both groups made errors on all tasks, but as predicted NLD children did so less often.

A qualitative/descriptive analysis of the data was motivated by the typology of errors

including inflectional substitutions, no responses, lack of pluralization, and neologistic forms. Most of the errors observed were in the form of substitutions. That is one inflection substituting another (usually the feminine {-es} used with the highest frequency). This was a pattern exhibited by both groups on both experimental tasks across all genders, although on the novel task the number of errors increased. Regarding a phonological saliency issue, the only pattern that could be explained by this framework was the difficulty all children had when the plural formation paradigm required the addition of a syllable (e.g.. [paloma] (floor), vs. [patom-ata] (floors)). This particular difficulty was remarkable within the SLI group as a function of each task. Particularly, the proportion of errors in the familiar versus the novel task on targets requiring an addition of a syllable was .33 and .70 for the SLI group respectively and .08 versus .30 for the NLD group respectively.

Conclusion and Discussion

Based on the results of the current investigation there is no support of the Feature Blindness Hypothesis regarding the inflectional difficulties in Greek children with SLI. Our data indicated that plural suffixation difficulty was not an all-or- none phenomenon. Both error and correct responses were revealed during both experimental tasks. In addition, errors were observed in both groups of children, even though the proportion of errors was higher in the SLI group. In the current study, children with SLI do not present with rule-based suffixation skills, an indication contrary to Dadalakis et al., reports (1994). The rule based knowledge we support is based on the fact that our children with SLI rarely showed error patterns in the form of "lack of pluralization" (e.g., providing the singular form instead of the plural) a pattern that accounted for less than 3% of the data. The pattern of performance is best explained from a developmental perspective. The errors seen were similar to what has been documented in the developmental literature regarding plural development in Greek children (Stephany, 1997). SLI children had the most difficulty on late mastering plural inflection such as neuter "i" and those requiring the addition of a syllable.

Regarding the second hypothesis, the data suggest a marginal effect. Again targets that require the addition of syllable appear to be among the ones that gave children the hardest time. Although in spontaneous language data SLI children do make use of forms such as "petalude-s" more deficits were seen in targets where the inflection {-des} assumed a morphophonological role as in the case of "alepu-des". The evidence was marginal, because the hierarchy we have initially predicted did not hold true. Take the case of neuter "I" which is considered the least frequent inflection within the neuter category, despite its "phonological saliency" as a full vowel. On such targets there were significant errors, in fact comparable error frequencies isometric to the "adding" a syllable tasks. Taken together, Greek children with SLI appear to know a great deal about how and when to use appropriate morphological structures. It appears though from the data we provide that a different perspective is warranted in explaining pluralization difficulties and variability of performance in Greek SLI. We propose some alternative hypotheses that may explain the selective deficit seen within plural inflections. These may include the frequency of the inflection as it is distributed within and between genders. The less frequently an inflection is the more children may rely on learning its pluralization via the lexical route (memory). Consequently, the more frequent an inflection is, the earlier will be hypothesized by the child or even be used as a "default" in replacing other more linguistically more challenging forms. (i.e., the word kentim-ata (laces) is produced as *kentim-es (laces)). These data suggest that these children follow a delayed rather than a disordered mode of plural suffixation. In fact this patter is also reported in other reports both in English and Italian. For example Oetting & Rice (1993) suggested that ESLI do not present with frequency independence. They actually suggest a delayed independence of rule use that is governed by inflection frequency. That is an aspect of rule use (i.e. frequency) takes longer to develop. As a last note. the results should be considered preliminary and be interpreted with caution, because of the small number of subjects. A more complete picture will be developed

with the addition of a younger language-matched group that will help us to delineate if SLI is a form of language delay or language disorder.

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Table 1

Noun morphology of MG

- **Gender**
  - Masculine
  - Feminine
  - Neuter
  - N>F> M

- **Case**
  - nominative
  - genitive
  - accusative

  - dative

- **Number**
  - singular
  - plural

- **Feminine**
  - /I kali/*/I kal-és/
  - / I θalasa/*/I θalas-ɛs/
  - / I taksi/*/I taks-Is/
  - / I alepu/*/ I alepu-δɛς/

- **Masculine**
  - /o maθiti-s/*/I maθit-és/
  - / o rafti-s/*/I raft-ɛs/

  - / o filo-s/*/I fil-I/

  - /o papa-s/*/I papa-δɛς/

- **Neuter**
  - /to moro/*/ta mor-á/
  - /to poδi/*/ta poδy-a/
  - /to laθos/*/ta laθ-I/
  - /to soma/*/ta soma-ta/

Table 2

GROUP SLI	AGE (MOS.)	GENDER	SES	RAVENS	MLU-W
LK	70	F	3	50	4,3
AK	71	F	1	75	4,4
XK	65	M	1	75	4,0
AX	70	M	2	50	4,0
GK	66	M	1	50	4,5
MA	70	M	3	75	5,5
MEAN	68	N/A	1,8	62,5	4,45
SD	2,5	N/A	.09	13,69	0,55
GROUP NLD					
AI	70	F	3	50	5,2
AD	70	F	1	75	4,5
DE	65	M	1	75	4,7
YI	70	M	2	50	4,8
A	66	M	1	50	6,2
AK	70	M	3	75	5,2
MEAN	68	N/A	1,8	62,5	5,1
SD	2,3	N/A	.09	13,8	0,6

Figure 2. Percentage of errors (noun gender X word task)
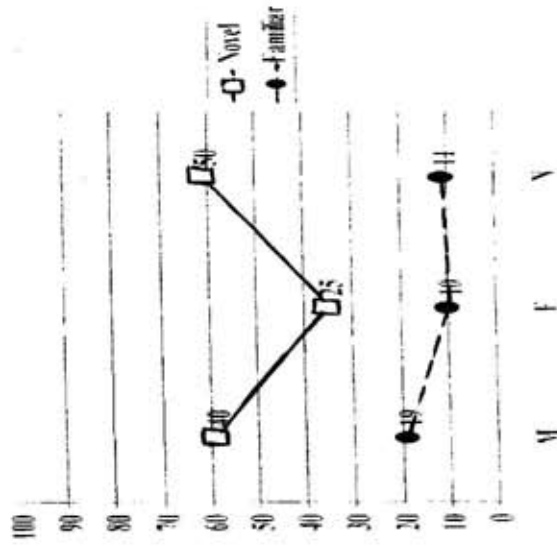
Figure 1: Percentage of errors as a function of group and word category (group X word category)
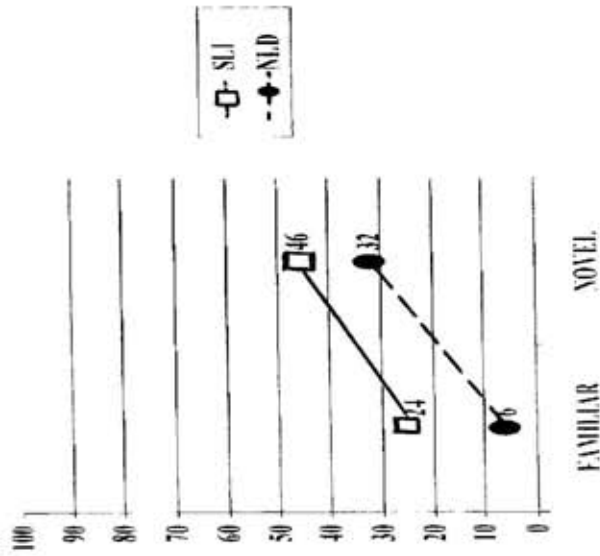
Figure 3: Percentage of errors (group,gender, word task)
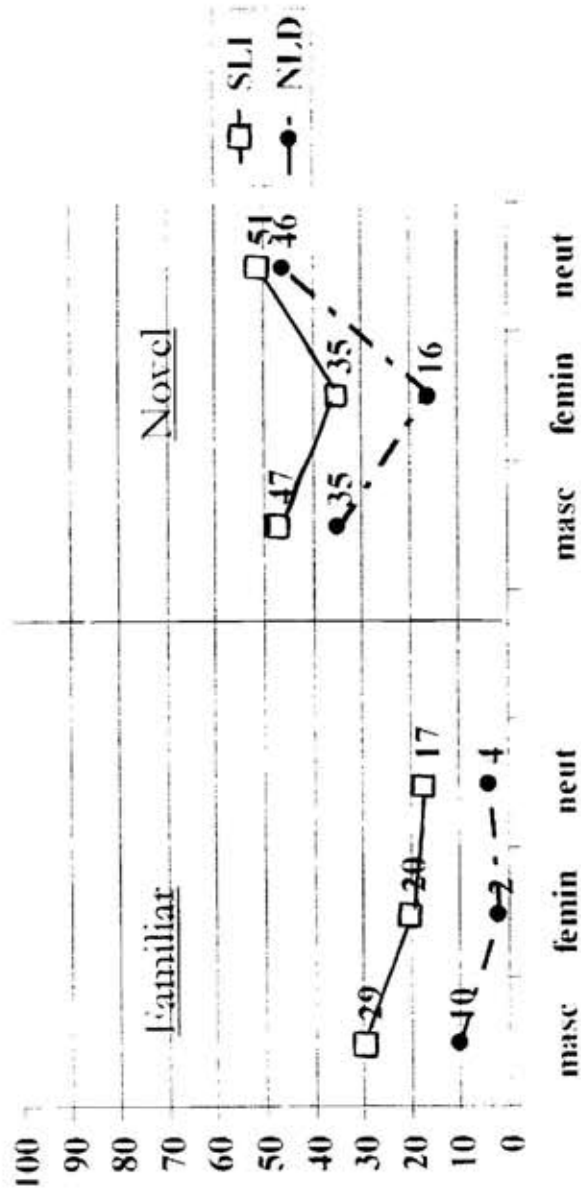
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THE ROLE OF PARADIGM IN TWO DIALECTAL VARIETIES OF THE ISLAND OF LESVOS[*]

Abstract

This paper discusses data from the nominal paradigms of two dialectal varieties of East Lesvos, those of Pamfila and Thermi. It is shown that there is abundant evidence for the key role of the paradigm in the phonological realization of the cluster [noun + clitic]. We argue that the grammar of these dialects must crucially include constraints that require identity between two surface forms of the paradigm, and we make specific proposals about the precise statement of such intra-paradigmatic identity. Identity constraints must have a limited domain of application, circumscribed by the forms of the paradigm and only those. More importantly, we present evidence that intra-paradigmatic identity constraints hold along the morphosyntactic dimensions of Person and Number which enter into the construction of the paradigms we study. The statement of intra-paradigmatic identity is expressed through constraints which require identity between two forms sharing a morphosyntactic feature (i.e., [+singular], [+third person] etc.) along any of the dimensions of the paradigm.

1. Introduction

The language spoken on Lesvos belongs to the group of northern Greek dialects and displays the following two major characteristics. First, the mid-vowels /o/ and /e/ become /u/ and /i/ respectively, when found in unstressed position. For example, standard Greek 'omorfo "nice" is pronounced as /'omurfu/, and 'efere "(he) brought" surfaces as /'efiri/. Second, unstressed /u/ and /i/ are generally deleted (cf. (1)), except in cases where they are used as evidence for contrasting morphological information (cf. (2)).

(1) Lesvian dialects   Standard Greek
    a. 'vno, 'vunarus   "mountain, big mountain"   vu'no
    b. pit'nos, pi'tinarus "rooster, big rooster"   peti'nos, pe'tinaros
    c. 'pinu, 'epna   "I drink, I was drinking" 'pino, 'epina

(2) Lesvian dialects   Standard Greek
    a. 'kovu, *kov   "(I) cut"   'kovo
       vs.

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b. 'kovi -> 'kov   "(he/she) cuts"   'kovi

Considerable linguistic differences from village to village induce linguists (e.g., Kretschmer 1905, among others) to talk of dialectal varieties rather than of a single Lesvian dialect. In this paper, we deal with the paradigm of [noun + clitic] combinations in two dialectal varieties of East Lesvos, those spoken in the villages of Pamfila (Dialect A) and Thermi (Dialect B). The [noun + clitic] paradigm shows some morpho-phonological differences with respect to the standard Greek correspondent, on the one hand, as well as from one variety to another, on the other.

2. The data

Let us consider the data in (3) where the basic noun form /filus/ "friend", which derives from the standard Greek form /filos/, is combined with the possessive postclitics. The "~" in the third singular of Dialect B indicates variation between the two forms given, within the same speaker..

(3) Dialect A   Dialect B   Word + clitic

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a. filusim[1]   filuzim   <-- filus + m   "my friend"
b. filus   filus   <-- filus + s   "your ..."
c. filusit   filuzit ~ filust <-- filus + t   "his ..."
d. filusmas   filuzmas   <-- filus + mas   "our ..."
e. filusas   filusas   <-- filus + sas   "your ..."
f. filustun   filuzdun   <-- filus + dun   "their ..."

If we compare (3) with the data in (4) below we see that most of these postclitics are not similar to the standard Greek correspondent forms.

(4) Noun + Possessive postclitics in standard Greek
        a. filozmu
        b. filosu
        c. filostu
        d. filozmas
        e. filosas
        f. filostus

At a first sight, most differences between Lesvian and standard Greek seem to follow from independent phonological properties. Thus, the final /u/ of *mu, su, tu*, is not present due to the dialectal law of high vowel deletion in unstressed position. The /s/ is deleted before another /s/. For example, /filus+s/ surfaces as [filus] in (3b) and /filus+sas/ as [filusas] in (3e). This is due to the well-known law of coronal deletion before /s/, as observed in the formation of the perfective stem of verbs, (5a,b), or deverbal nouns in –si, -

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[1]Hereafter, examples will be given in an unstressed form.

simo (5c,d,e) (Malikouti 1970):
(5)a. plath- / plas- "to mold", plasi "creation, world", plasimo "creation"
  b. den- / des- "to tie" , desimo "tie"
  c. skiz- / skis- "to tear apart" , skisimo "tearing apart".

Finally, the word final /s/ of /filus/ becomes a voiced /z/ before the voiced /m/, in the first person of plural in standard Greek, (4d), and in Dialect B, (3d). Voicing is not applicable in Dialect A.

In this paper, we argue that the differences between the two dialectal varieties, as well as the deviations with respect to standard Greek, cannot be explained by phonological factors alone. Rather, these differences provide evidence for the key-role played by certain mechanisms available to the morphology-phonology interface, namely to the notion of the morphological paradigm itself, and the notion of intra-paradigmatic identity relations. In what follows, we will examine these differences and the mechanisms that are needed to account for them.

3. The -i- epenthesis

In (3), we have an -i- between the final consonant of the noun and the initial consonant of the clitic in the first (1Sg) and the third person (3Sg) of the singular in both dialects. In an attempt to interpret this -i-, we restrict our attention to 1Sg, that is to /filusim/ (Dialect A) or to /filuzim/ (Dialect B). We claim that -i- is inserted for syllabifying reasons: the final cluster /sm/ that is created by combining filus with the postclitic –m is not a possible word-final cluster. In Lesvian, final clusters of obstruent-sonorant consonants are possible if the sonorant is coronal:

(6)a. xurevn < xurevun < xorevun "they danse"
  b. kukl < kuklu   "doll-MASC-GEN"

Another plausible interpretation of the –i– in -im of 1Sg is that it results from a Turkish influence. In Turkish, a language that was in contact with Lesvian for more than four centuries, a similar form, i.e., /HighVowel+m/, applies to the first person possessive clitic when the preceding noun ends by a consonant. Compare (7) and (8) below. Vowel harmony, in Turkish, accounts for the assimilation of the suffixal /i/ to the features [round] and [back] of the stem vowel.

(7) Turkish		(8) Lesvian	
a. arkadasIm	< arakadas + Im	filusim	< filus + im
my friend		my friend	friend-NOM
b. evim	< ev + im	gatasim	< gatas + im
my house		(of) my cat	cat-GEN
c. okulum	< okul + um	gatisim	< gatis + m
my school		my cats	cats-NOM

d. gozum   < goz + um

vs.

filum   < filu   + m
(of) my friend   friend-GEN
gatam   < gata + m
my cat   cat-ACC

my eye

Although the Turkish contribution to the development of an -im postclitic form should not be underestimated, there is additional independent evidence for the -i- insertion. As mentioned before, a plausible observation could be that -i- appears to break-up /sm/ final clusters, on the basis of the fact that /sm/ is a legitimate cluster in Lesvian elsewhere. See (9) below.

(9)   Lesvian   Greek
  a. smirnos   <   simerinos
     of today
  b. asmenjus   <   asimenjos
     silver-ADJ

In order to interpret (9) as opposed to (3a) and (8a,b,c), we suppose that, although being legitimate inside the words, /sm/ is not allowed word finally. Such a hypothesis is plausible if the notion of word is taken in the broad sense, referring not only to one-word units, but also to clusters of words and phrasal affixes, if clitics are considered to belong to a closed set of phrasal affixes, following Anderson (1992). The postulation of an -i- epenthesis, however, is sound if an epenthetic -i- is generally used by the language in contexts other than the /sm/ word-final cluster in [noun + clitic] combinations. In fact, an epenthetic -i- may also appear at the end of a word that does not result from a [noun + clitic] combination, (10a) or at the left-hand side of words, (10b,c,d), when various consonant-final pronouns and particles are combined with consonant-initial words. Consider the examples in (10) as an illustration to this remark.

(10)   Lesvian   Greek
  a. t kozim ta loja   tu   kozmu ta loja
      the words of the world   of the world the words
  b. den-i-dlev   den   dulevi
      (he/she) does not work   NOT   works(he/she)
  c. tun-i-psaxn[2]   ton   psaxni
      (he/she) loks for him   HIM   looks
  d. min-i-majirevs psarja?   Mipos   majirevis psarja?
      (are you) cooking fish?   Can it be   cook(you) fish-PL

This epenthetic -i- should not be confused with the /i/ that derives from the verbal augment e- in unstressed position, for the following reasons. First, it appears in both the

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[2]Palatalization of the /n/ and final i-drop.

present, (10b,c,d) and the past tense forms, (11). On the contrary, an augment is expected only in the context of the past tense:

(11) Lesvian   Greek
      a. den idulipsa[3]   de(n) dulepsa
         (I) didn't work   NOT   worked-PERF-1Sg
      b. tun ilugarjaza   ton   elogarjaza
         (I) was counting on him   HIM   counted-IMPERF-1Sg

Second, the past forms for verbs that have more than two syllables, e.g., *dulevo* "work" and *logarjazo* "count" do not take an augment in the past tense, e.g., *dulivga* and *lugarjaza*, when they are not preceded by a proclitic or a particle. The absence of augment is also attested in Greek. See Babiniotis (1972) and Ralli (1988) for an analysis of the augment as a stress carrier.

(12) Lesvian   Greek
      a. dulivga   duleva
         I was working
      b. lugarjasa   logarjasa
         I counted

To conclude, in Lesvos, we find an epenthetic –i- word finally, in the [noun+clitic] context, and also in [particle, proclitic + verb] context. In all cases given in (11), this epenthetic –i- is inserted to break-up consonant clusters that would be unsyllabifiable if no epenthesis were to take place. Before examining the other occurrences of –i- epenthesis, that is the forms in (3c) in both dialects, let us go to the voicing assimilation in Dialect B, that is to the form /filuzim/ of Thermi.

4. The /s/ voicing assimilation

Thermi has a dialect where /s/ is the target of voicing assimilation that applies at the boundary between the noun and the postclitic, as shown by the first plural form (1Pl) /filuzmas/, and further illustrated by the examples in (13) below.

(13)a. ksixazmenus   < ksixas+menos   < ksexas+menos
       forgotten-PART   forget - PART
     b. jitunazmas   < jitunas+mas   < jitonas+mas
       our neighbour   neighbour - OUR
                  vs.

---

[3]In standard Greek, as well as in Lesvian, the augment e- is inserted only in a stressed position. Considering the fact that stress can fall only on one of the last three syllables, a three-syllable verb needs not an augment to bear its stress. Therefore, the augment is only realized in the past tense of verbs of less than three-syllable length.

c. asmenjus   <   asimenjus   <   asimenjos   *azmenjus
   silver-ADJ-MASC
d. enas milus   <   enas milos   *enaz milus
   a mill

Interestingly, 1Sg, (3a), 3Sg (3c), and the third person plural (3Pl, 3f) forms also show a voiced /z/. Both the 3Pl /filuzdun/ and the 1Sg /filuzim/ could be derived in a rule-based theory: voicing of /s/ to /z/ occurs in the 3Pl (before /d/) as well as in the 1Sg (before /m/), if we posit that a rule of voicing assimilation applies before the -i- epenthesis.

A rule-ordering analysis in precisely these terms is proposed by Newton (1972) to account for the fact that both forms [filuzim] and [filusim] are attested in Lesvos (/th/, /dh/ are the voiceless, voiced interdental fricatives).[4]

(14) Rule-ordering account of [thkozim] ~ [thkosim] "my own" (cf. Newton 1972: 208)

	dhikosmu		
High Vowel Loss	dhkosm		
Voice Assimilation	thkozm		
Epenthesis	thkozim	->	[thkozim]
	dhikosmu		
High Vowel Loss	dhkosm		
Epenthesis	dhkosim		
Voice Assimilation	thkosim	->	[thkosim]

However, this solution fails when one looks at the form /filuzit/ (3Sg) with a voiced /z/ in Dialect B. This voiced /z/ cannot be explained by any rule ordering. In this person, the final /s/ of the word /filus/ is not in the environment of voicing assimilation. This shows that other forces are at work here. Notice that in the 1Pl /filuzmas/ the final /s/ of the noun /filus/ is voiced, due to voicing assimilation as described earlier. We would like to propose that voicing in the 3Sg /filuzit/ is present because of a requirement that all occurrences of the noun within the [noun + clitic] paradigm must be identical. In other words, voicing assimilation that is responsible for the voiced /z/ in /filuzmas/, induces voicing of /s/ in /filuz-i-t/, even though voicing assimilation is not applicable here.

There are two apparent counterexamples that seem at first to cast doubt on this proposal. First, there is voiceless /s/ in the 2Sg and 2Pl, /filus/ and /filusas/. This /s/, however, is not the final consonant of the noun /filus/, but rather the first consonant of the corresponding postclitics, i.e., /s/ < /su/ and /sas/. The second apparent complication is that, in fact, the 3Sg shows variation, /filuzit/ ~ /filust/, where the second variant has a voiceless /s/. Crucially, we only see this for the 3Sg. The 1Sg is always /filuzim/, never /filusim/.

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[4]The problems that are encountered in an attempt to explain the voicing and the vowel epenthesis in the 1Sg of [noun-clitic] forms, of the northern Greek dialects of Zagori, Velvendos and Thasos, by using a rule-ordering hypothesis, are also discussed in a paper by Malikouti-Drachman and Drachman (1977: 47-49).

This fact implies that the identity requirement introduced in the preceding paragraph fails to show its effects within particular persons. As will be seen, this calls for certain refinements in the grammatical statement of the intra-paradigmatic identity.

5. Theoretical Assumptions

The theoretical model of grammar we assume in this paper is that of Optimality Theory of Prince & Smolensky (1993). In Optimality Theory (henceforth, OT), Universal Grammar consists of a set of well-formedness conditions or *constraints*. The output of phonology is not constructed by a step-by-step application of rules. Instead, given an input form, the grammar first generates a set of *candidate* outputs. Each of the candidates in this set is then evaluated by the constraints. The output of the grammar is the candidate that best satisfies the constraints, called the *optimal* candidate. The set of constraints (CON), the function that generates all candidates (GEN) and the evaluation procedure (EVAL) are all assumed to be fixed parts of the architecture of Universal Grammar. Grammars of particular languages are constructed by ranking the universal-constraint set. We illustrate the model with explicit examples below. Within OT, we especially rely on the notion of correspondence relation as developed in the work by McCarthy & Prince (1995). In its most general sense, a correspondence relation is a relation between two linguistic forms that impose identity constraints among elements of these forms. For instance, a lexical input and its output form(s) enter into a correspondence relation. A correspondence relation comes with a set of constraints, known as correspondence constraints, which require similarity between the two forms across different dimensions which are considered to be linguistically significant.

We illustrate these remarks with three basic correspondence constraints, shown below. MAX-IO requires that all segments in the lexical input be present in the Output, and DEP-IO requires that the Output does not include segments which are not present in the Input. The constraint IDENT-IO(F) is concerned with identity in terms of featural properties of two correspondent segments.

(15)a.　MAX-IO: Every segment of the Input has a correspondent in the Output. (Bans deletion).

　　b.　DEP-IO:　Every segment of the Output has a correspondent in the Input. (Bans epenthesis).

　　c.　IDENT-IO (F): An Input segment and its correspondent in the Output must have identical values for feature F. (Bans featural changes)

Intuitively, correspondence constraints penalize disparity between inputs and outputs. MAX-IO does this by banning segment deletion and DEP-IO by banning segment epenthesis. IDENT-IO (F) penalizes disparity by banning featural mismatches between input and output correspondents. Epenthesis, deletion, and featural change are all different ways of breaching the identity between an input and an output form. In principle, there is a correspondence constraint requiring identity between input and output for each linguistically-significant dimension of phonological form (e.g., not only segments and features per se but also prosodic properties such as location of stress or suprasegmental

properties such as tone).

6. Basic constraint interactions

In what follows, we see how these constraints interact to determine the [noun + clitic] combinations in our data. Consider, first, the 1Pl [filuzmas] of Dialect B. The input to the formation of the 1Pl consists of the combination of the noun /filus/ and the clitic /mas/. There is therefore a violation of IDENT-IO (Voice), because /s/ surfaces as /z/. This fact is related to a property of consonant clusters in word-phrasal affix combinations. Any consonant cluster at the juncture between a word and a phrasal affix must be homogenous with respect to voice. Let us call this property VOICE-AGREE.

(16)   VOICE-AGREE [abbreviated VA]
         In a CC cluster at the word-phrasal affix juncture the Cs agree in voice

For an input /filus + mas/, then, we have two competing constraints. VOICE-AGREE requires that the output be [filuzmas] but IDENT-IO (Voice) requires that the output be [filusmas]. Such situations of constraint conflict are prototypical in OT. They are represented graphically by the tableau, shown below. The input is shown to the upper left corner. The constraints are shown at the top row. The two competing outputs, the candidates, occupy the second and third rows. The actual output is indicated by the arrow. Constraint violations are shown by '*' in the column of the constraint which is violated.

(17)   Input: /filus + mas/   VOICE-AGREE   IDENT-IO (Voice)
         a. ->   filuzmas   *
         b.   filusmas   *

Constraint conflict is resolved by imposing a prioritization of the relevant constraints. The fact that the Dialect B opts for the form [filuzmas] is expressed in OT by saying that the constraint VOICE-AGREE is ranked higher than the constraint IDENT-IO (Voice).

(18)   VOICE-AGREE >> IDENT-IO (Voice).

Notice that if the ranking were IDENT-IO (Voice) >> VOICE-AGREE, instead, then [filusmas] would be the predicted output, as in Dialect A.

The same analysis applies to the form [filuzdun] (3Pl) from /filus+dun/. We know that the input form of the clitic is /-dun/ because the form surfaces as such after vowel-final bases.

(19)   manadun   <   mana dun
         "their mother"   mother-THEIR

The ranking VOICE-AGREE >> IDENT-IO (Voice) dictates voicing of the final /s/ of the input /filus/ before the voiced obstruent /d/ of the postclitic -dun. As opposed to Dialect B, we note that, in Dialect A, /filus/ before the 3Pl clitic -dun resolves the inhomogeneous voicing of the /sd/ by devoicing the clitic /d/ rather than voicing the final /s/ (e.g., /filustun/). Just as in dialect B, the form of the 3Pl clitic is /dun/ after vowel-final noun

forms (e.g., /manadun/ "their mother"). One way to account for this effect is to propose that there exist different IDENT-IO (Voice) constraints for nouns and for clitics. So, in Dialect A, IDENT-NOUN-IO is ranked higher than VOICE-AGREE which is in turn ranked higher than IDENT-CIITIC-IO. This ranking bans any changes in the feature of Voicing in the noun of Dialect A, and hence derives the absence of /s/-voicing throughout the paradigm. At the same time, this ranking permits the voicing alternation seen in the clitic.

(20) IDENT-NOUN-IO >> VOICE-AGREE >> IDENT-CLITIC-IO[5]

Consider now the 1Sg. The input is /filus + m/ and the output is [filusim] in Dialect A and [filuzim] in Dialect B. The relevant constraint prohibiting word final /sm/ clusters is *FINAL-CC, stated as in (21) below.

(21) *FINAL-CC: Final CC clusters, where the second C is a non-coronal sonorant are not allowed.

Once again we have an instance of constraint conflict. In the following tableau, candidate (a), the actual output, employs epenthesis, hence the violation of DEP-IO. Candidate (b) contains an illicit word-final cluster, and therefore violates *FINAL-CC. In the grammar of these dialects then it must be that *FINAL-CC is ranked higher than DEP-IO.

(22)   Epenthesis in 1SG: Input /filus + m/; Output /filuzim/
         New ranking relation: *FINAL-CC   >>   DEP-IO

Input /filus + m/	*FINAL-CC	>>	DEP-IO
a. -> filusim			*
b. filusm	*		

Intuitively, the tableau above shows that illicit word-final clusters are 'repaired' by epenthesis. But there are other ways that languages employ to resolve illicit clusters. Another way to resolve an illicit word-final cluster is by deletion of one of the consonants. This is shown in (23). The actual output, candidate (a), is compared to candidates (b,c), in which one of the consonants of the illicit cluster has been deleted. Deletion causes a violation of MAX-IO. Since (a) is the actual output, we may infer that MAX-IO is ranked higher than DEP-IO.

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[5]We have been assuming that VOICE-AGREE is the constraint that induces voicing in both /filuzmas/ and /filuzdun/. However, the two consonant clusters differ in that one is an obstruent-sonorant and the other is an obstruent-obstruent sequence, and may be subject to different voicing requirements. Though we are aware that it may not be accurate to adopt the same constraint in these two different environments, we do assume this analysis for present purposes because it does not compromise the validity of the ensuing results.

(23)   No deletion in 1Sg: Input /filus + m/; Output /filuzim/
       New ranking relation: MAX-IO >> DEP-IO
       Input /filus + m/   MAX-IO   >>   DEP-IO[6]
       a. —> filuzim/filusim   *
       b.   filum   *
       c.   filus   *

Consider now the second-person forms, the 2Sg /filus/ from /filus + s/, and the 2Pl form /filusas/ from /filus + sas/ in both Dialects. As said before, in these forms, the final /s/ of input /filus/ deletes due to the law of coronal deletion before /s/. This implies that the constraint enforcing this deletion, call it *COR-COR, is higher ranked than the constraint that penalizes segmental deletion. We emphasize that the constraint *COR-COR is just a cover name for the more basic constraints that would derive coronal deletion in more detailed analysis of this phenomenon (these constraints would include at least the Obligatory Contour Principle and the requirement for overt expression of affix material). Since we focus on the role of the paradigm, we will put aside the details of that analysis.

In (24), we show how the basic faithfulness constraints MAX-IO, DEP-IO, and IDENT-IO (F) interact with each other and with other independent properties of the phonology of Dialect B to derive aspects of the 1Sg, 2Sg, 1Pl, 2Pl, 3Pl forms of the [noun + clitic] combinations.

(24) Summary of inferred rankings and their effects to Dialect B

VOICE-AGREE >> IDENT-IO (Voice)	Voicing of /s/ in [filuzmas], [filuzdun]
*FINAL-CC >> DEP-IO	Epenthesis of /i/ in [filuzim]
MAX-IO >> DEP-IO	Illicit consonant clusters *[filuzm] are resolved by epenthesis and not by deletion
*COR-COR >> MAX-IO	Deletion of final /s/ before /s/-initial clitics

7. Paradigm uniformity

We turn now to the presence of voicing in the final consonant of the noun in the [noun+clitic] combination of the 1Sg, [filuzim] (Dialect B). As discussed in section 6, the presence of voicing is due to a constraint that demands identity of the noun-form across its

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[6]It is possible that the candidates /filum/ and /filus/ are blocked by avoidance to homophony with the forms /filum/ from /filu-ACC –mu / "friend-Accusative + my" and /filus/ from /filu-GEN –su/ "friend-Genitive + yours"

various contexts of occurrence. Constraints can also apply between two different surface forms of a morpheme, and are then called Output-Output (OO) faithfulness constraints. In past literature, such constraints are usually studied under the name of analogy (Anttila 1977). The study of the effects of such constraints and the concept of paradigm uniformity is introduced into generative grammar by Kiparsky (1978, 1995). In more recent work, the study of paradigm uniformity has resurfaced within an Optimality Theory framework (cf. Burzio 1994, Benua 1995, Kenstowicz 1996, Steriade 1995).

(25)   IDENT-NOUN-OO(F)   (preliminary formulation to be refined later)
        A noun has the same realization for feature F in its various contexts of occurrence.

The term "various contexts of occurrence" refers to all the surface realizations of the noun in the [noun + clitic] context. More accurately, the set of [noun + clitic] forms comprises a paradigm defined on the morphosyntactic dimensions of Person (1, 2, 3) and Number (Singular, Plural). For some of the [noun + clitic] forms, combining the base noun /filus/ with a clitic of some Person and Number results in phonological action. For instance, as we have seen in the 1Pl /filus+mas/, voicing assimilation of /s/ before /m/ gives /filuzmas/. The effect of the constraint IDENT-NOUN-OO(F) in the grammar is to induce similar changes on the noun in contexts where the trigger of the phonological action is not present. We illustrate this 'leveling' effect of IDENT-NOUN-OO(F) constraints with the 1Sg in (26). The actual output (a) incurs a violation of IDENT-NOUN-IO (Voice). Candidate (b) instead violates IDENT-NOUN-OO, since in the plural the noun appears with /z/, /filuzmas/. We infer that IDENT-NOUN-OO (Voice) >> IDENT-NOUN-IO (Voice).

(26)   Leveling in the 1Sg: Input /filus + m/; Output [filuzim]
        Ranking argument: IDENT-NOUN-OO   >>   IDENT-NOUN-IO
        Input /filus + m/   IDENT-NOUN-OO   IDENT-NOUN-IO
        a. -> filuzim   *
        b.   filusim   *

This tableau shows that the leveling effect of IDENT-NOUN-OO is not automatic, but it is present only under the assumption of the particular ranking inferred above. This point becomes important when we deal with variation seen in the 3Sg /filuzit/ ~ /filust/. The first variant is analogous to /filuzim/, but the second variant indicates that the leveling forces can be suppressed. We will see that this variation can be expressed by the variable ranking of the two relevant constraints IDENT-NOUN-OO and IDENT-NOUN-IO within the same grammar.

Before proceeding we take note that a basic grammatical requirement for the application of IDENT-OO is the notion of "domain of application" of an OO constraint. It is important to stress that the forms over which identity applies must be limited to the occurrences of the noun with the clitic set of forms. In particular, IDENT-OO cannot impose identity between the independently occurring noun /filus/ outside of the [noun + clitic] paradigm and its form /filuz/ within the paradigm. If it did, all instances of the noun would level to /filuz/ or /filus/, and this is not what we find. Thus, it follows that any

IDENT-OO constraint must be specified to apply only within the set of forms of a specific paradigm, in our case, in the paradigm involving a noun and a phrasal affix.

We turn now to the 3Sg of Dialect B. The input to the formation of the 3Sg is /filus+t/. The output shows variation between /filuzit/ and /filust/ within the same speaker. We put aside for a moment the issue of variation, focusing on /filuzit/. We address the issue of variation in the next section.

At first, the presence of epenthesis in /filuzit/ may be surprising. In the 1Sg /filuzim/, the presence of epenthesis is a repair for the non-permissible final /sm/ cluster. The same motivation for the presence of /i/ is not available for the 3Sg, since final /st/ clusters are attested in this dialect, see (27).

(27)a. pist   "faith"
  b. xtist   "builder"
  c. Anest "proper name"

Recall, however, that the grammar includes a constraint, IDENT-NOUN-OO, requiring that the final /s/ in the combination /filus+t/ be voiced. This constraint effectively favors output */filuz+t/. However, this output violates the constraint VOICE-AGREE. Voicing the first consonant of the clitic to give /filuzd/ incurs a violation of IDENT-CLITIC-IO, the constraint that disallows featural disparities for the clitic between its input and its output (we know that the input form of the 3Sg clitic is /t/, e.g., /manat/ < mana tu "his mother").

(28) IDENT-CLITIC-IO (F): An Input segment of a clitic and its correspondent in the
    Output must have identical values for feature F. (Bans featural changes)

Note that deleting one of the consonants in /z+t/ is not an option because of the violation of MAX-IO that this would incur. As we have inferred earlier, MAX-IO >> DEP-IO. Hence, epenthesis is the only option for resolving the offending /z+t/ cluster.

(29) 3Sg epenthesis

Input	/filus+t/	IDENT-CIITIC-IO,	VOICE-AGREE	>>	DEP-IO
a. ->	filuzit				*
b.	filuzt		*!		
c.	filuzd	*!			
d.	filuzid	*!			*

8. Dissecting the paradigm

The 3Sg shows variation, i.e., /filuzit/ and /filust/, where the second variant has a voiceless /s/. This indicates that the OO-identity forces, so far expressed by the constraint IDENT-NOUN-OO in our grammar, can be violated. Crucially, however, suppression of OO-identity effects is seen only in the 3Sg. The 1Sg is always /filuzim/, never */filusim/. The latter form avoids an illicit final /sm/ cluster by epenthesis, as expected, but it does not voice the noun-final /s/, remaining faithful to the input noun /filus/. In terms of our constraints, the non-attested */filusim/ in Dialect B would be the output produced by a grammar where IDENT-NOUN-IO >> IDENT-NOUN-OO. In this ranking, the leveling

forces of OO-identity would be suppressed by IO identity. Since 1Sg, */filusim/ cannot be an output for the 1Sg, we must conclude that the OO-identity constraint cannot be violated. Hence, presence of variation in the 3Sg suggests that IDENT-NOUN-OO can be violated, but absence of variation in the 1Sg suggests that IDENT-NOUN-OO cannot be violated.

We have arrived at a contradiction. If the identity requirement between the 1Sg and 1Pl (voicing) and the identity requirement between the 1Sg and 3Sg (voicing) are enforced by the same constraint in the grammar, a single IDENT-NOUN-OO, we do not predict the state of affairs that is true in Dialect B. Rather, a single IDENT-NOUN-OO predicts no variation in 1Sg and 3Sg (/filuzim/, /filuzit/) or variation in both 1Sg and 3Sg (/filusim ~ filuzim/, /filust ~ filuzit/). This contradiction is resolved by positing distinct identity relations and thus distinct identity requirements holding within the paradigm. One identity constraint holds between the 1Sg and the 1Pl. These two forms share the morphosyntactic feature [+first person], along the Person dimension. We call this type of identity constraint "Person identity". Person identity is to be contrasted with the identity requirement between the 1Sg and the 3Sg. These two forms share the morphosyntactic feature of [+singular], along the Number dimension, and thus we call their identity constraint "Number identity". Schematically, these two identity relations are depicted in (30) below. The horizontal boxes indicate that a Person identity constraint holds between the two enclosed forms, and the vertical elipses indicate that a Number identity constraint holds between the enclosed forms.

(30) Distinct identity relations between 1Sg, 1Pl and 1Sg, 3Sg

Since distinct identity requirements are involved, they project distinct constraints in the grammar. Since the constraints are distinct, they may have different 'strengths' or they may reside at different places in the constraint ranking.

Let us show now how Person identity and Number identity constraints interact in the grammar of Dialect B. We call the OO-identity constraint that holds between the 1Sg and the 1Pl, IDENT-NOUN-OO[+first person], and that holding between the 1Sg and 3Sg, IDENT-NOUN-OO[+singular]. Following our proposal above, IDENT constraints are projected (a) along the dimensions of the paradigm or along what we called earlier the morphosyntactic dimensions of the paradigm, and (b) IDENT constraints demand identity between forms that share some morphosyntactic feature along one of the dimensions. The input to the 1Sg is /filus+mu/. The actual output is /filuzim/. IDENT-NOUN-IO is violated because the input has /s/, but the output has /z/. The reason why IDENT-NOUN-IO is violated as we go from input /filus+mu/ to output /filuzim/ is of course because of the IDENT-NOUN-OO constraint that holds between the 1Sg and the 1Pl. Hence, we infer that IDENT-NOUN-OO(1Sg,1Pl) >> IDENT-NOUN-IO, as shown earlier. Intuitively, the paradigmatic leveling force 1Sg and the 1Pl is stronger that the IO-faithfulness identity requirement between the input noun /filus/ and its output 1Sg form.

(31) 1Sg, /filuzim/, 1Pl /filuzmas/

IDENT-NOUN-OO-[+first person] >> IDENT-NOUN-IO

Consider now the other identity relation between 1Sg and 3Sg. The input to the 3Sg is /filus+tu/. When the output is /filust/, the IO-identity to /filus/ wins over the OO-identity constraint. Hence, output /filust/ implies that IDENT-NOUN-IO >> IDENT-NOUN-OO-[+singular]. In addition, IDENT-NOUN-IO >> IDENT-NOUN-OO-[+third person], where the last constraint demands a voiced /z/ in the 3Sg because there is a /z/ in the 3Pl. This ranking is shown in the next tableau. We only show the relevant portions of the output candidates, i.e., anything after the final coronal fricative of the noun is omitted.

(32) Suppression of paradigmatic leveling effects on the 3Sg

IDENT-NOUN-IO >> IDENT-NOUN-OO-[+sg], IDENT-NOUN-OO-[+third person]
–> filus+   *   *
   filuz+   *!

(33) Grammar for 1Sg /filuzim/, 3Sg /filust/

IDENT-NOUN-OO-[+first person] >> IDENT-NOUN-IO >> IDENT-NOUN-OO-[+sg], IDENT-NOUN-OO-[+third person]

When the 3Sg is /filuzit/, one or both of the lowest-ranked constraints above are promoted higher than the IDENT-NOUN-IO constraint. That is, the Person identity between the 3Sg and 3Pl or the Number identity between the 3Sg and the 1Sg, or both, become 'strong', just like the Person identity constraint between the 1Sg and the 1Pl.

(34) Grammar for 1Sg /filuzim/ (as before), but 3Sg /filuzit/
      IDENT-NOUN-OO-[+first person] >> IDENT-NOUN-IO, and
      IDENT-NOUN-OO-[+sg] >> IDENT-NOUN-IO
           or
      IDENT-NOUN-OO-[+third person] >> IDENT-NOUN-IO

To sum up, dialect B shows variation in the presence of voicing in the 3Sg /filuzit ~ filust/, and absence of variation in the 1Sg /filuzim, *filusim/. We have shown that a single OO-identity constraint cannot account for this state of affairs, as it predicts uniform presence or absence of variation across all forms in the paradigm. This argues that within a paradigm, OO-identity constraints request identity between forms of a specific person (e.g., first or third) or a specific number (e.g., singular or plural), only. Specifically, we saw that Person identity between the 1Sg and the 1Pl is never violated as shown by the pair /filuzim/filuzmas/ (no variation), but Number identity between the 3Sg and the 1Pl and Person identity between the 3Sg and the 3Pl can be violated (as shown by the pairs /filust/filuzim/ and /filust/filuzdun/).

Finally, notice that Dialect A's 3Sg /filusit/ is problematic. There is no phonotactic reason to motivate the presence of /i/ epenthesis in these forms. Final /st/ clusters seem to be attested in Dialect A (see (35)):

(35)a. pist   "belief"
    b. asmenjus "silver-ADJ"

One possible account of the presence of /i/ in the 3Sg of Dialect A is to argue that the clitics of Dialect A in 1Sg and 3Sg have a lexicalized /i/, hence /im/ and /it/. We leave this issue for future research.

10. Conclusions

In this paper, we have studied the role of the morphological notion of paradigms in shaping the phonological properties of the word-forms within two dialectal varieties of the island of Lesvos. We chose to analyze different dialectal varieties of Lesvos in the hope that this will allow us to isolate the distinct contributions of phonology and morphology in shaping each individual dialect. We have seen that to account for certain aspects of the phonological form of words within the paradigm, the grammar must crucially include constraints that require identity between two surface forms (of the paradigm). We have formalized such constraints in terms of Output-Output correspondence relations, building in this way on other studies of intra-paradigmatic relations in the literature. The interaction of such constraints with other independently necessary properties of the phonology and morphology of these dialectal varieties of Lesvos derives aspects of [noun + clitic] combinations which would otherwise seem puzzling.

We made two specific proposals about the precise statement of intra-paradigmatic identity in the grammar. Identity constraints must have a limited domain of application, circumscribed by the forms of the paradigm and only those. Perhaps, more importantly, we presented evidence that intra-paradigmatic identity constraints hold along the morphosyntactic dimensions of Person and Number which enter into the construction of the

paradigm. The statement of intra-paradigmatic identity is expressed through constraints which require identity between two forms sharing a morphosyntactic feature (e.g, [+singular], [+third person]) along any of the dimensions of the paradigm.

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GREEK DIALECTS: LINGUISTIC AND SOCIAL TYPOLOGY

Abstract

An interesting challenge for sociolinguistics has to do with relationships which may exist between the structures of human societies and the structures of human languages. The suggestion is that the distribution of linguistic features over languages may not be totally random when seen from a sociolinguistic point of view, and the question is whether certain linguistic features are more commonly associated with certain types of society or social structure than others. We may initially be able to learn much from what we already know about differences in the speed of linguistic change in different types of society and from the relevance of social ties, social networks and language contact to this phenomenon. Greek dialects illustrate very nicely the thesis that low-contact language varieties tend to be conservative in many respects. This paper examines the extent to which contact and social network structure, as exemplified in Greek dialects, prove to be relevant to the study of the relationship between social and linguistic typology.

Introduction

Typological studies in linguistics have provided us with considerable amounts of information about the range of structures available to human languages. We do not yet, however, have any explanations for why some languages select particular structures and not others. Maybe there are no explanations. But a legitimate sociolinguistic viewpoint is that it might be useful to consider that some such explanations could be arrived at by supposing that they are social in nature. In this paper, I want suggest that for those of us who work in sociolinguistics, there is an interesting challenge to do with relationships which might exist between the structures of human societies, on the one hand, and the structures of human languages, on the other. The suggestion is that the distribution of linguistic features over languages may not be totally random when seen from a sociolinguistic point of view (Trudgill 1989a, 1989b, 1989c, 1992, 1996, 1998, 1999, 2001), and the question is whether it can it be the case that certain linguistic features are more commonly associated with certain types of society or social structure than others.

In tackling this question, it will be necessary to make decisions about what types of societal features it might be useful to consider. My suggestion is that we may initially be able to learn much from what we already know about differences in the speed of linguistic change in different types of society. As Milroy and Milroy (1985) have pointed out, "linguistic change is slow to the extent that the relevant populations are well established and

bound by strong ties whereas it is rapid to the extent that weak ties exist in populations". Ties have to do with social networks and with contact, which is why lack of contact favours lack of change.

Greek dialects illustrate very nicely the thesis that low-contact language varieties tend to be conservative in many respects. For example, most varieties of Greek lost the classical distinction between geminate and non-geminate consonants, so that for example /gramma/ is now /ɣrama/. This is thought to have happened perhaps as early as the first century AD. Remarkably, however, and as is well known to Greek dialectologists, in geographically peripheral areas of the Greek-speaking world, two thousand years on, geminates are still retained. This is true according to Newton (1968) of the Greek dialects of southern Italy, the Dodecanese, Chios, Cappadocia, and Cyprus. In this brief paper, I also attempt to see if what we know about these dialects can shed any light on the broader question of linguistic and social structure.

1. Contact and complexification

In order to do this, I now explore the two features of human societies suggested by the work of Milroy and Milroy just mentioned – contact, and social network structure and stability – and attempt to see if these factors, as exemplified in Greek dialects, can prove to be at all relevant to the study of the relationship between social and linguistic typology. First, I will consider the fact that the degree of contact one language community has with another appears to have two different types of implication for linguistic structure. One is that increased complexification may occur in languages as a result of borrowing. Nichols writes (1992: 193): "It can be concluded that contact among languages fosters complexity, or, put differently, diversity among neighbouring languages fosters complexity in each of the languages". This contact, of course, must be of a very particular type, namely long-term contact situations involving childhood – and therefore proficient – bilingualism.

An example of long-term contact leading to complexification in the form of increased redundancy is suggested by Joseph (1983). One of the well-known features of the Balkan linguistic area is the loss of the infinitive in Greek, Macedonian, Bulgarian, Albanian, Rumanian and certain dialects of Serbian. It is widely agreed that it was language contact which led to the spread of this feature; indeed, linguistic areas of the well-known Balkan *Sprachraum* type are obviously the result of contact-driven diffusion from one language to another of large numbers of features over a long period of time. However, more interestingly for our purposes, Joseph argues that contact is not only the cause of the spread of this feature but also of its origin. He points out that the use of forms such as Greek

thelo na grapso 'I want that I write'

where the first-person singular present is marked on both verbs in the construction is easier for non-native hearers to process than forms such as English

I want to write

where the same information is given only once. He argues that the Balkan-wide loss of the infinitive arose and spread in part because of sensitivity on the part of native speakers in contact situations to the comprehension difficulties of non-native listeners. In contact situations involving long-term, stable contact and child bilingualism, the needs of the non-native speaker as listener may lead to the growth of syntagmatic redundancy. The conclusion is that high-contact languages may demonstrate more redundancy if child language contact is involved.

2. Contact and simplification

The second implication is that contact may also lead to a type of process which is the complete reverse of this. That is, simplification may occur in high-contact languages as a result of pidginisation, which is what occurs in those situations involving adult and therefore imperfect language acquisition on the part of speakers who have passed the critical threshold (Lenneberg 1967). The imperfect language-learning abilities of adults, that is, can be an important factor in certain sorts of developments typical of contact situations.

One of the biggest problems for adult language learners is memory load. The less there is to remember, the easier language acquisition is. This is particularly true of the acquisition of lexis, which is one of the reasons why pidgins have small vocabularies. Memory load is also relevant, however, to the feature of word length, in terms of syllables and/or segments. The longer a word is, the more difficult it will be to remember, other things being equal. This is not a factor which is usually mentioned in pidginisation studies, but I believe that it is relevant. Languages differ enormously in the average length of even monomorphemic words. In Trudgill (1996), for instance, I showed that in the first fifty items on the Swadesh word list, Modern Greek basic vocabulary items are much longer than the corresponding English items. This cannot altogether be explained by phonotactic restrictions on syllable-final consonants in Greek, and not at all by case endings or the like. Standard Modern Greek, in these 50 words, has an average of 2.06 syllables per word, 81% more syllables than the same items in English, which average 1.14 syllables, as exemplified by e.g. *knee* versus *ghonato; big* versus *meghalo*; and *head* versus *kefali*. In terms of segments, too, there is a remarkable difference: English has an average of 3.06 vowels and consonants per word, while Greek has 4.58, an increase of around 50%. It is interesting to note, therefore, that there are dialects of Greek in which word length is greatly reduced in comparison to Standard Modern Greek. In the dialects of the north of mainland Greece, the same fifty words have an average length much closer to English, namely 1.76 syllables. This is accounted for by a phonological change in these dialects in which unstressed /i/ and /u/ have been lost. We may observe, moreover, that northern Greece is precisely the area of the country which has been most exposed to language contact with Albanian, Slavic, Romany, Arumanian and Turkish.

In any case, this is just one small example illustrating the thesis is that high-contact languages may demonstrate more simplification and less redundancy, of which word length is one aspect, if the contact involved is adult language contact.

3. Community size and information

We now move on from contact to social networks. Here I will consider that society size, network structure and stability may also have two different types of implication for linguistic structure.

The first is that members of small, stable, tightly-knit societies are likely to share more information than members of larger, more dynamic loosely-knit communities. The relevance of this is that Martinet (1962) argued that in spoken communication a dynamic equilibrium exists between the needs of the speaker to speak quickly and easily, on the one hand, and the needs of the listener to comprehend what is being said, on the other. This equilibrium, in other words, is usually conceived of as balancing the hearer's need to understand as effortlessly as possible against the speaker's need or desire to speak as effortlessly as possible. Dressler (1984) has similarly pointed out that phonological processes are concerned with pronounceability and perceptibility but that "the goals of better perception and better articulation often conflict with one another".

Anecdotal evidence supports the view that some, often nonstandard, varieties of language are harder to learn to understand than others. In the context of Martinet's dynamic equilibrium, I suggest that this is because the balance between perception and articulation need not be the same in all societies. The point is that less phonetic information may be necessary for successful communication in small communities with considerable amounts of shared knowledge, since the listener more often than in other communities may already have a good idea of what is going to be said. In such communities, therefore, the dynamic equilibrium might be weighted somewhat in favour of the needs of the speaker, and fast-speech phenomena might as a consequence be more common. Fast-speech processes, obviously, reduce the amount of phonetic information available.

In Trudgill (1995) I argued that this might have implications for grammaticalisation: certain types of grammaticalisation process might be more common in some types of community than others. The degree to which grammaticalisation is the result of pragmatic, cognitive, discourse, semantic, syntactic and/or phonological processes is very much an open question. To the extent that phonetics and phonology are involved, however, I would suggest that grammaticalisation may be a more frequent process in those communities which favour fast-speech phenomena than in those which do not. The argument is not that such processes occur only in isolated dialects. Rather, the proposal is that grammaticalisation processes which are due ultimately to phonological reduction and deletion may be *more common* in small, tightly knit communities with relatively few outside contacts, i.e. the same sorts of communities which particularly favour fast-speech phenomena.

This thesis concerning grammaticalisation can be examined in the light of Janse's observations on Asia Minor Greek dialects. As Dawkins (1916) pointed out, these dialects have "been developing in an isolated area separated from the rest of the Greek-speaking world". It is perhaps not surprising, therefore, that the Inner Asia Minor dialects of Cappadocia and Pharasa, and, to an even greater extent, the Pontic dialects, have undergone grammaticalisation processes involving pronouns that go well beyond those found elsewhere in the Greek-speaking world. Janse (1998: 538) shows, on the basis of Dawkins

(1916) and Drettas (1997), that in Pontic and certain Inner Asia Minor dialects "the use of doubled clitic pronouns has increased to the point where they have become quasi-obligatory object agreement markers", as in the following example from Pharasa, with grammaticalisation of the originally plural pronoun /da/ to an invariant object marker capable of referring to a singular object:

 e'saksa'n=da to=pro'vato
 'they killed=it the=sheep'

He also notes that a grammaticalisation 'clitic cline' is in evidence in this area. This cline involves three chronological stages, all attested in Asia Minor:

 (1) cliticisation (type: e'stila'n=to)
 (2) agglutination (type: e'stilan-to)
 (3) fusion   (type: esti'lan-to).

Type 2 is exemplified in the Pontic dialects in remarkably un-Greek forms such as

 e'stilan-emas-atsene
 'they sent them to us'

with an accent only on the first syllable, indicating partial morphologisation. Type 3 forms, which are typical of Cappadocia, are fully morphologised from the Greek point of view, because they are stressed in accordance with the three-syllable rule.

 Of course, there are complications here to do with the influence of Turkish, but I suggest that it is not a coincidence that grammaticalisation has gone further in these remote dialects than in the more central dialects of modern Greek. This may be an indirect consequence of the fact that in smaller communities, less information is required and fast-speech phenomena are more prevalent.

4. Social networks and conformity

The second implication is that dense, multiplex networks may lead to greater conformity in linguistic behaviour, and to the stricter maintenance of group norms, since tightly-knit communities are more able to enforce continued adherence to such norms.

 One facet of this involves sound change. I suggest that small, tightly networked communities may be able to push through, enforce and sustain phonological changes which would have a much smaller chance of success in larger, more fluid communities. These would be phonological changes of a relatively non-natural or at least unusual type, and/or changes that are relatively complex in some way.

 There is already some evidence to support this speculation (Trudgill 1996). As far as Greek is concerned, we can note the following. Many mainland Greek dialects, as we saw above, are characterised by the consequences of an unsurprising change, diachronic seg-

ment deletion, i.e. the loss of unstressed /i/ and /u/. The more remote southeastern island dialects of Greek, on the other hand, not only do not share this feature but demonstrate sound changes which can be labelled fortitions. For example, in parts of Rhodes, the plural of *nisi* 'island', *nisiá*, is pronounced /nisca/; and in Cypriot *alithia* 'truth' is pronounced /alithca/ (Newton 1967). Newton (1972) refers to this phenomenon as a form of manner dissimilation, which indeed it is, but the most important thing from our point of view is that it is a change which involves the conversion of a vowel into a plosive. Many historical linguists seem to feel that fortitions of this type are less to be expected than lenitions

The thesis that non-natural sound changes are more common in smaller, more tightly-knit, peripheral communities is also borne out by a study of Greek dialects in other respects. Some sound changes evidenced by Greek dialects are, of course, of a highly natural type. Here I would include the loss of unstressed /i/ and /u/ in northern Greek dialects that we just mentioned and the subsequent raising of unstressed /e, o/ to /i, u/ respectively in this category. These are a changes which we see very often in the world's languages. Similarly the fronting of /k, g, x, ɣ/ to [tʎ, dʒ, ʎ, ç] before /I, e/ in Crete and other dialect areas is an extraordinarily common type of sound change.

On the other hand, we can notice sound changes in remote and/or peripheral areas which are not at all of this type. For example, mountainous areas of central Crete have an allophone of /l/, a retroflex approximant, which is the result of the sound change of a presumably rather velarised or 'dark' [l] > [ɻ]. In these dialects, we see alternations such as the following (Kondosopoulos 1988; Mansfield & Trudgill 1994):

kali   [kali]
kale   [kale]
          but
kala   [kaɻa]
kalo   [kaɻo]
kalous   [kaɻus]

In fact, of course we are rather used to changes which involve switching between /l/ and /r/. However, it is most unusual for the /r/ to be of this type. Languages which have a retroflex approximant are rare enough. Only 15 of the 317 languages cited in Maddieson (1984: 245) have such an articulation, i.e. 4.7%. And languages which have it as an allophone of /l/ are presumably even rarer.

So far we have looked at unusual sound changes, but I would suggest that the same will also hold true for what we can perhaps refer to as unusual sound systems. Although relatively little work seems to have been done on the vowel systems of Greek dialects, no doubt because many of them have the apparently uninteresting five-vowel /i, e, a, o, u/ system, we can observe something strange about the vowel system of the Cretan dialect of Sfakia.

Typically, 5-vowel systems are very stable and very common: 31% of the world's languages have such systems (Maddieson 1984: 127). They also appear to make maximum

usage of available vowel space, and one is not surprised when such a system, in order to maximise distinctiveness and naturalness, consists, as the Standard Greek system does, of a close front unrounded vowel, a close back rounded vowel, and open central vowel, and, in between and equidistant from these, a mid-front unrounded vowel and a mid-back rounded vowel. The Sfakian dialect is not at all like this. The high vowels /i/ and /u/ are indeed where we would expect them to be. The low vowel /a/, however, is very back [ˠ]. And the mid vowels are actually much closer than mid, approximately [ẹ, ọ]. Large areas of phonetic space in the vowel trapezium thus go unused, as it were.

Most remarkable, however, is something which has happened in Cyprus, and which, I again venture to suggest, is typical of the sorts of changes which tend to occur in peripheral communities. As I have already mentioned, Cypriot Greek and other southeastern dialects have preserved Ancient Greek geminates, as in /filla/ 'leaves'. However, this is only half the story. As is well-known, following the work of Brian Newton (1968), modern Cypriot Greek has also in the intervening period acquired geminates from other sources. Firstly, there are geminates which result from borrowings from Italian and Turkish, which also have geminates, in items such as /kappellos/ from Italian *cappello*. Then there are geminates which result from assimilation, such as /niffi/ 'bride' from earlier /nimfi/. Then, famously and somewhat more mysteriously, are the cases which Newton labels 'spontaneous gemination', where for reasons which are not entirely understood, although Newton goes some way towards explaining what has happened, single consonants have turned into geminates, as in /otti/ 'whatever' from earlier /oti/.

Newton points out that spontaneous gemination has occurred in other languages as well. However, the most remarkable thing about Cypriot Greek is that, unlike Ancient Greek, it also has word-initial geminates: in word-initial position, single and geminate consonants are in opposition. Word-initial geminates in Cypriot Greek may be the result historically of spontaneous gemination, as in /nne/ 'yes', from earlier /ne/; or of assimilation, as in /ßßillos/ 'dog' from earlier /skilos/. They also occur in loans from Turkish, as in /ppullin/ 'stamp' from Turkish *pul* – which is also rather mysterious since Turkish does not have word-initial geminates. And they also occur in loans from English, as in *tennis*, which is /ttenis/ in Cypriot Greek. (This is presumably because the aspiration of word-initial voiceless plosives in English is interpreted as a sign of gemination; see below.) Note, however, that since English and Turkish do not have word-initial geminates, we can be sure that these loans must have post-dated the development of such geminates in Cypriot, in order for the borrowings to have taken this form. We cannot say that word-initial geminates occur in Cypriot Greek *as a result of* borrowings from English and Turkish.

Whatever the source of these geminates, however, the fact remains that word-initial single and geminate consonants contrast, as in /ppefti/ 'he falls' versus /pefti/ 'Thursday'. Of these geminates, particularly remarkable are the word-initial geminate stops of Cypriot Greek. Geminates are rather rare in the world's languages. Maddieson (1984) lists 19 of the 317 sample languages in his data base as having long consonants, i.e. only 6%. Phonotactics are not dealt with in Maddiseson's book, but I believe that it is reasonable to suppose that only a small minority of this 6% of languages with geminates will have them in word-

initial position. And an even smaller number will have word-initial geminate stops. It is not difficult to see why this would be. Only when a long consonant is potentially heterosyllabic, and when the length distinction occurs intramorphemically, can such a consonant be classed as a geminate (see Catford 1977: 210f), but the main phonetic reason for the rarity of word-initial geminates will be the problem of *signalling* a length difference on initial consonants, especially stops, and most especially voiceless stops. According to Abramson (1987), for example, in Pattani Malay the "length" distinction between word-initial voiceless stops is actually not a length distinction at all but is maintained by differences in the relative amplitude of the following vowel. So it is in fact not at all surprising that the phonetics and phonology literature cites only a small number of languages where genuine word-initial geminate stops are known to occur (see Hume, Muller & van Engelenhoven 1997; Davis 1999). One phonetically well-established case is that of LuGanda, a Bantu language of Uganda which has a true single/geminate contrast (see Butcher forthcoming). Voiced geminates in this language occur in syllable-initial position mainly as the result of the historical loss of an intervening high vowel. Butcher's data show that the initial geminates are about 60% longer than the singles. His conclusion is that the difference between the two is achieved through differences in both peak pressure *and* stricture duration. As far as Cypriot Greek is concerned, Arvaniti has shown that word-initial geminate stops are distinguished from single consonants partly by aspiration but that they are also, crucially, genuinely and substantially longer than singletons (Arvaniti 1999, in press, this volume; Arvaniti & Tserdanelis in press; Tserdanelis & Arvaniti in press).

We are thus on sure ground when we maintain that the situation of Cypriot Greek as regards initial geminates is very unusual universally, and extraordinarily unusual amongst European languages. The proportion of the world's languages with a contrast between word-initial geminate and single stops in monomorphemic words must be infinitesimally small. Even if there are, say, 30 such languages, this will be less than 1%. My suggestion is that it may not be a coincidence that the variety of Greek which has this unusual feature is spoken on an island at the geographical periphery of the Greek-speaking world.

6. Conclusion

There is evidence from linguistic varieties around the world, including Greek dialects, to suggest that the distribution of structural characteristics over the world's languages may not be entirely random from a sociolinguistic point of view. For example, we have seen indications that long-term contact involving child bilingualism may lead to increased complexity, including redundancy. Conversely, contact involving adult second language acquisition may lead to increased simplification. Furthermore, communities with dense, tightly-knit social networks may be more likely to demonstrate fast-speech phenomena and the consequences of this; and more likely to experience unusual sound changes.

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