Allomorphy in Inflection: Evidence from the Dialects of Lesvos, Kydonies and Moschonisia*

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In language variation relatively little research has investigated the consequences of the emergence of new, non-phonologically interpreted allomorphy patterns. A survey of certain allomorphy phenomena that are reported here from Standard Modern Greek and its dialectal variation, as is realized on the island of Lesvos, and in the Asia Minor areas of Kydonies and Moschonisia, provides a typical example of how systematic allomorphy patterns may affect the morphological system in a significant manner. In dealing with the issue of stem variation in inflectional morphology, the paper shows that non-phonologically conditioned allomorphy occupies a central position in morphology. It assumes several roles and is not a simple synchronic residue of historical processes. It is proposed that allomorphy may have a classificatory role, leading to the distinction of inflection classes, and paves the way for paradigmatic uniformity, contributing to the simplification of the linguistic system. It is argued, however, that allomorphy has an independent status as a basic morphological phenomenon, and may resist levelling forces when structure preservation is at stake.

Keywords: Allomorphy, Inflection, Levelling, Modern Greek Dialects

1. Introduction

A major question in linguistic morphology is when two or more phonetically distinct morphological units are analyzed as the same for morphological purposes, that is as allomorphs of a single morpheme (see, among others, Nida 1948, Harris 1951). With few exceptions (see, for instance, Lieber 1980, 1982, Carstairs 1987, 1988, Maiden 1992, Aronoff 1994, Booij 1997a,b), this issue has never become the focus of attention, particularly within the generative grammar framework. The reason for such neglect is mainly due to the fact that allomorphy is usually considered as nothing more than the absence of uniformity, resulting either from historical processes or from borrowing. Contrary to this view, I will try to show that allomorphy is an important property

of morphological formations which plays an active role in paradigmatic organization and paradigmatic restructuring.

Allomorphic variation affects lexemes such as stems and words, but may also characterize affixes. In early generative grammar, Aronoff (1976) explains the form difference of allomorphs in terms of adjustment allomorphy rules. These rules are situated at the interface of phonology and morphology, but are different from phonological ones, since they cannot introduce segments, which are not otherwise motivated as underlying phonological segments of the language. Moreover, they are unconstrained, in that they are capable of encoding all types of behavior, exceptional and regular.

As opposed to Aronoff's views, Lieber (1980, 1982) proposes that allomorphic variation must be encoded in segmental terms, directly in the lexicon. She argues that it is often the case that certain word-formation rules must have available to them the segmental composition of the allomorphic variants they concatenate, and that these variants cannot be accounted for by phonology or syntax. In her approach, allomorphic variants of the same item are related by a morpholexical rule, which is nothing but a redundancy statement relating items of a different form but of the same grammatical category. Marantz (1982) further specifies the formulation of this type of rule, by claiming that its conditioning environment has to be stated in morphological than in purely phonological terms. Along the same lines, Spencer (1988) argues that allomorphic relationships are situated in the lexicon, since there are word-formation processes that choose particular allomorphs on the basis of lexical criteria.

According to Carstairs (1987), there is a need to distinguish phonologically-conditioned allomorphy from lexically or grammatically conditioned one, although there may be some controversial cases where this distinction is not clear. The same position has been taken by Ralli (1988) and Booij (1997a,b, 2005). Without denying the fact that there is a type of allomorphy that can be explained as the result of application of phonological processes, these authors claim that there are allomorphic variants which should be stated in morphological terms. Standard Modern Greek (hereafter SMG) provides several examples that bring support to a distinction between phonologically-conditioned and non-phonologically conditioned allomorphy. Consider the inflected types of a verb like *'γrafo* 'to write' under (1):

(1)a.	'γraf-ume	vs.	b. 'γrap-s-ame
	write-IMPERF.PR.1PL		write-PERF-PAST.1PL
	'we write'		'we wrote'

As seen in the example above, the verb 'to write' displays two stem variants, /γraf/ and /γrap/, depending on the phoneme that follows its stem-final

consonant. If this phoneme is the [+continuous] /s/ of the aspectual marker, a dissimilation rule transforms the [+continuous] /f/ into the [-continuous] /p/. Thus, /ɣraf/ is the basic stem[1] expressing the concept of 'write', and /ɣrap/ is the outcome of a phonological rule applied to it.

Evidence of the second type of allomorphy may be found in the systematic stem variation of a number of verbs, like *aɣa'p(a)o* to love'. *aɣa'p(a)o* displays an allomorphy pattern, according to which a X(a) stem variant *aɣap(a)-* is used in the context of imperfective forms (e.g., in the present and the imperfect tenses, see (2a)), while a Xi stem variant *aɣapi-* appears in the context of perfective forms (e.g., in the aorist paradigm, see (2b)), as well as in the passive voice (2c) and derived words (2d):

(2) SMG

a. aɣa'p(a)-o
love-IMPERF.PR.1SG
'I love'

b. a'ɣapi-s-a
love-PERF-PAST.1SG
'I loved'

vs.

c. aɣapi-'eme (> aɣapjeme)
love-PASS.IMPERF.PR.1SG

d. aɣapi-'tos
'beloved'

Clearly, there is no synchronic phonological explanation for this form variation. Therefore, the selection of allomorphic variants must be a matter of the lexicon or morphology. Crucially though this form variation cannot be explained in terms of a typical concatenative word-formation rule of Greek, since it has no semantic counterpart, that is, the change in the form is not triggered by the addition of a meaningful element. We could, thus, suppose that the stem variation in (2) is handled at the level of the lexical entry, by a lexical redundancy rule, along the lines of Lieber (1980, 82). This type of rule relates stems that are considered to be basic, in the sense that no particular stem is derived from the other. By adopting Lieber's (1980, 1982) symbolization, the basic stem allomorphs of verbs like *aɣa'p(a)o* to love' will be noted as X(a) ~ Xi (*aɣap(a)* ~ *aɣapi*).

Interestingly, a more morphologically-oriented explanation could be found in Booij (1997a,b, 2005) who proposes that there is a close relation between non-phonologically conditioned allomorphy and paradigmatic morphology, and that in certain cases, allomorphic variants may be determined on the basis of paradigmatic relations holding either between inflected forms, or between derived words of the same lexeme. For instance, the correct form of the stem used in the French adverbs in *–ment*, is determined by referring to the stem of a paradigmatically related form, the feminine one:

(3) French

Adjective.MASCULINE	Adjective.FEMININE	ADVERB
beau	belle	belle-mente
fou	folle	folle-ment

In this paper, I restrict my attention to instances of allomorphy that are not entirely phonologically dissimilar - as cases of pure suppletion are – but, at the same time, they cannot be describable in phonological terms. In particular, by examining stem allomorphy and its relation to inflection, I show that it plays an important role in morphological paradigm formation. Elaborating on Booij's hypothesis on the close relation between allomorphy and paradigmatic morphology, I propose that allomorphy can be seen as a central morphological property, which may

- assume a classificatory role, leading to the distinction of inflection classes,
- pave the way for paradigmatic uniformity, but also
- resist leveling forces when structure preservation is at stake.

In this respect, allomorphy constrains paradigms, paradigm organization, and paradigm restructuring. Furthermore, its significant contribution to inflectional paradigmatic structure adds support to the hypothesis for the autonomy of morphology. As shown in this paper, the interaction of allomorphy and paradigmatic structure, as well as certain regularities in the choice of particular allomorphs cannot be predicted by phonological rules, and cannot be explained in terms of syntagmatically-oriented syntactic constructions. On the contrary, they ask for a morphological interpretation, proving that morphology is a grammatical domain with its own phenomena.

Claims and proposals that are put forward in the paper are exemplified with data of stem allomorphy drawn from SMG, the dialectal varieties of the island of Lesvos (Kretchmer 1905, Papadopoulos 1927), and the Asia Minor towns of Kydonies (also called Aivali) and Moschonisi (hereafter LAM, see Sakkaris 1940, Ralli to appear, Ralli forthcoming).[2] These dialectal varieties belong to the group of northern Greek dialects. As such, they display the two typical characteristics of high vowel deletion in unstressed position, and change of mid-vowels /e/ and /o/ into /i/ and /u/, respectively, also in unstressed position:

(4)	LAM	SMG	
	kti	ku'ti	'box'
	xu'raf	xo'rafi	'field'
	pit'nos	peti'nos	'cock'

2. Allomorphy as an inflection-class demarcator

It is well known that nouns and verbs of fusional languages belong to more than one inflection class, and that their classification is based on certain specific criteria. For instance, in Ancient Greek verbal inflection, one of these criteria is the presence, or absence, of thematic vowels, accompanied by a difference in the endings. A verb like *λύω* /lyo:/ 'to solve', containing the thematic vowels *–o-* or *-e-*, depending on the context (*λύομεν* /lyomen/ 'we solve', but *λύετε* /lyete/ 'you solve.PL'), belongs to the second class, while the athematic verbs, like *τίθημι* /tit^{h}e:mi/ 'to put', is part of the first. In addition, the phonological application of the so-called 'contraction rule' applying to a string of two consecutive vowels (the stem final one and the initial vowel of the ending) results into distinguishing two subclasses among the class of the thematic verbs, those which do not undergo contraction (e.g. *λύ-ω* /lyo:/), and those which are submitted to the rule (e.g., *κινέ-ω* > *κιν-ω* (/kine-o:/ > /kin-o:/) 'to move'). The situation is different today, where the old thematic vowels and the contraction rule play no active role in verbal inflection. Their old application, however, has left its residues on the form of Modern Greek verbs. According to most recent analyses by Koutsoudas 1964, Philippaki-Warburton 1970, Babiniotis 1972, and Ralli 1988 (Hamp 1962 is the only exception who considers the thematic vowel to be a mark of voice), the old thematic vowel –o/e- is not taken to be a distinct functional element any more, but part of the endings of the present tense. However, as shown by Ralli (1988), SMG verbs are still distributed into two major inflection classes, each class bearing its own inflectional endings in the present and the imperfect tenses. Elaborating on this analysis, I would like to propose that the Modern Greek verb classification is based on the systematic presence, or absence, of a specific allomorphy pattern, which affects the stems. In other words, I propose that stem allomorphy has taken over the function of the old thematic vowel, and has assumed the role of an inflection class demarcator on synchronic grounds.

As shown in (1) above, the SMG verb *aγa'p(a)o* 'to love', together with a considerable number of inflectionally similar verbs, contains a X(a) form (*aγapa*) and a Xi one (*aγapi)*, depending on the context, and no synchronic phonological explanation could conceivably account for this stem alternation. Assuming that the general structural pattern for the verb types is [Stem-(Aspect)-Tense/Person/Number] (cf. Koutsoudas 1964, Ralli 2005), the paradigms of active present, imperfect and aorist are as in (5), where a hyphen separates the stems from the endings:[3]

(5) SMG Stem allomorphs: aγapa ~ aγapi

	a. Present	b. Imperfect	c. Aorist
SG 1P	aγa'p(a)-o	a'γapa-γ-a / aγa'p-us-a	a'γapi-s-a

	2P	aγa'pa-s	a'γapa-j-es / aγa'p-us-es	a'γapi-s-es
	3P	aγa'pa-i	a'γapa-j-e / aγa'p-us-e	a'γapi-s-e
PL	1P	aγa'pa-me	aγa'pa-γ-ame / aγa'p-us-ame	aγa'pi-s-ame
	2P	aγa'pa-te	aγa'pa-γ-ate / aγa'p-us-ate	aγa'pi-s-ate
	3P	aγa'pa-ne	a'γapa-γ-an / aγa'p-us-an	a'γapi-s-an

Crucially, verbs like *'γrafo* 'to write' differ from verbs like *aγa'p(a)o*, in that they do not display any systematic stem allomorphy (as already mentioned in the introduction, the stem final /f/ is phonologically transformed into /p/), and their inflectional endings in the present tense are also distinct from those of *aγa'p(a)o*:

(6) SMG

		a. Present	b. Imperfect	c. Aorist
SG	1P	'γraf-o	'e-γraf-a	'e-γrap-s-a
	2P	'γraf-is	'e-γraf-es	'e-γrap-s-es
	3P	'γraf-i	'e-γraf-e	'e-γrap-s-e
PL	1P	'γraf-ume	'γraf-ame	'γrap-s-ame
	2P	'γraf-ete	'γraf-ate	'γrap-s-ate
	3P	'γraf-un	'e-γraf-an	'e-γrap-s-an

On the basis of the examples given under (5) and (6), I would like to suggest that the presence or absence of a systematic allomorphy pattern X(a) ~ Xi signal the way in which verbs are classified into inflection classes. This suggestion is in accordance with Maiden (1992) who has showed that allomorphy patterns are very robust in paradigms, on the basis of evidence drawn from Italian. In other words, I propose that X(a) ~ Xi stem allomorphy may function as an inflection-class demarcator, in the sense that verbs that do not adapt to the particular allomorphy pattern are predicted to inflect differently from verbs that have it. Conventionally, let us call them class-a and class-b verbs, respectively.[4] Seen like this, the X(a) ~ Xi allomorphy pattern functions like a schema, in a broader sense of what is defined as a schema by Bybee & Slobin 1982, since it determines the paradigmatic behavior of a class of verbs, the members of which form a series of 'family' inflectional resemblances.[5] Moreover, by using the idea that inflectional classes can be determined by clustering around a basic allomorphy pattern, allomorphy contributes to paradigmatic distinctness, as opposed to Carstairs (1987: 222-223) who claims that stem allomorphy is irrelevant to the identification of paradigms, to which only affixal inflection should count.

The proposal for the role of allomorphy as an inflection-class demarcator finds additional support in the dialectal domain. Consider (7) and (8) below. Evidence from the present, the imperfect, and the aorist tenses of the same verbs *'γrafo* and *aγa'p(a)o,* in their dialectal realization, suggests that the allomorphy

pattern X(a) ~ Xi is not only present in LAM, but like in SMG, serves to classify verbs into distinct inflection classes, followed by their own inflectional endings.[6]

(7) LAM underlying stem forms: X(a) ~ Xi [aγap(a) ~ aγapi]

		a. Present	b. Imperfect	c. Aorist (underlying aγapi-)
SG	1P	aγa'p-o	a'γap-um, aγap-umna[7]	a'γap-s-a
	2P	aγa'pa-s	a'γapa-s	a'γap-s-is
	3P	aγa'pa	a'γapa	a'γap-s-i
PL	1P	aγa'p-umi	aγa'p-us-ami	aγa'pi-s-ami
	2P	aγa'p-uti	aγa'p-us-ati	aγa'pi-s-ati
	3P	aγa'p-un	aγa'p-us-an	aγa'pi-s-an

(8)

		a. Present	b. Imperfect	c. Aorist
SG	1P	'γraf-u	'eγraf-a	'eγrap-s-a
	2P	'γraf-s	'eγraf-is	'eγrap-s-is
	3P	'γraf	'eγraf-i	'eγrap-s-i
PL	1P	'γraf-umi	'γraf-ami	'γrap-s-ami
	2P	'γraf-iti	'γraf-ati	'γrap-s-ati
	3P	'γraf-in	'γraf-an	'γrap-s-an

If we compare the inflected types of SMG (5-6) and LAM (7-8), we realize that in LAM the distinction of verbs into two inflection classes has acquired a clearer status than in SMG, since it is followed by a sharper difference in the inflectional endings. For instance, in LAM, there is a systematic distinction between class-a and class-b verbs as far as the plural endings of the present tense are concerned (9), and a form *–um* (or *–umna*) appears in the 1SG of LAM class-b verbs.

(9) Present tense plural endings

	Class a	Class b
LAM	-umi	-umi
	-iti	-uti
	-in	-un
SMG	Class a	Class b
	-ume	-me
	-ete	-te
	-un	-un

The sharper division of the two inflection classes in LAM is also proved by the rise and spreading of the class-b pattern among verbs, the stems of which have

an allomorphic variation, but do not conform to the systematic allomorphy pattern X(a) ~ Xi, and as such, they belong to class a, as shown in (10). In fact, on the basis of the Italian verb inflection, Maiden (1992) has proposed that the levelling of allomorphic variations may assist to a sharper differentiation of the verb forms. As far as the Greek conjugation is concerned, some verbs display the peculiarity to have an aorist stem form in Xi (see (10) below). Since the same form is also shared by class-b verbs, the division between the two classes, as far as the aorist forms of the particular verbs are concerned, is blurred. As a consequence, the verbs undergo a shift from class a to class b.

Consider, first, the 1SG and 2SG in the present of SMG verbs in *-ino,* and *–eno*:

(10) SMG class-a verbs in –ino and -eno

a	'zvin-o	'e-zvin-a	'e-zvi-sa
	'I extinguish'	'I was extinguishing'	'I extinguished'
	'zvin-is	'e-zvin-es	'e-zvi-ses
	'you extinguish'	'you were extinguishing'	'you extinguished'
b.	aro'sten-o	a'rosten-a	a'rosti-sa
	'I fall ill'	'I was falling ill'	'I fell ill'
	aro'sten-is	a'rosten-es	a'rosti-ses
	'you fall ill'	'you were falling ill'	'you fell ill'

These verb types contain two different stem variants that are listed in (11), one particular type in the present and the imperfect, and another type in the aorist.

(11) SMG

a. zvin ~ zvi b. arosten ~ arosti

As already mentioned, non-systematic allomorphy or absence of allomorphy determine class-a verbs. These verbs in LAM, however, have undergone a change of their present stem by acquiring the X(a) form. The new stem form, together with the Xi stem of the aorist conform to the systematic allomorphy pattern X(a) ~ Xi. As a result, the verbs have changed inflection class, that is they have passed from class a to class b.[8]

(12) LAM

Allomorphy pattern: X(a) ~ Xi, e.g. arust(a) ~ arusti → class-b verbs
z(u)v(a) ~ z(u)vi

a. zv-o	'zuv-um / 'zuv-um na	'zuf-sa < 'zuvi-sa
'I extinguish'	'I was extinguishing'	'I extinguished'
zva-s	zuva-s	'zuf-sis < 'zuvi-ses
'you extinguish'	'you were extinguishing'	'you extinguished'

b. aru'st-o	a'rost-um / a'rost-umna	a'rost-sa < a'rosti-sa
'I fall ill'	'I was falling ill'	'I fell ill'
arusta-s	a'rosta-s	a'rost-sis < a'rosti-ses
'you fall ill'	'you were falling ill'	'you fell ill'

The phenomenon described above seems to be a typical case of analogical restructuring of irregular class-a forms that has been realized with the support of the aorist forms, which, as shown in (10) are shared by class–b verbs. Following Kuryłowicz (1949) we could claim that the process of analogy has occurred in order to establish a central contrast of the language, i.e. the presence or absence of the X(a) ~ Xi allomorphy pattern, which replaces a more marginal allomorphy pattern (see [11]), and is used as an inflection-class demarcator. Superficially, however, the change from (10) to (12) does not appear to be a straightforward simplification of the morphological system because the innovation e.g. the loss of non-systematic allomorphy, is followed by a new complication, e.g. the appearance of new allomorphic variants. Nevertheless, a better look at the inflectional system reveals that the introduction of new allomorphy has been done for some good reason:[9] it has assisted the affected verbs to acquire more regular stem forms since irregular allomorphy is replaced by a more regular one. As a consequence, the introduction of new allomorphy has allowed some class-a verbs with irregular stems to adapt to class-b verbs. Assuming that the base stem forms of the Greek verbs are distributed into two inflection classes, according to the presence or the absence of the particular X(a) ~ Xi stem pattern, the dialectal change described under (10-12) constitutes an optimization of the verb system at the level of lexical representations. In Kiparsky's (2003) terms, it removes the irregular allomorphic variants from certain class-a verbs, establishes a uniform stem-allomorphy pattern for them, and optimizes lexical representations by increasing their conformity with the system.

3. Allomorphy and cross-paradigmatic uniformity

In what follows, I examine another instance of interaction between allomorphy and paradigmatic structure, namely, the issue of how allomorphy may assist

cross-paradigmatic uniformity. This time evidence is drawn from nominal inflection, in particular, from the inflection of neuter nouns.

According to Ralli (1994, 2000), SMG neuter nouns inflect according to four inflection classes. Consider (13) for relevant examples:

(13) SMG a. a'vγ-o 'egg' b. ku'ti 'box' c. 'laθ-os 'mistake' d. 'kima 'wave' (stem: X ~ Xt)

NOM/ACC/VOC SG	a'vγ-o	ku'ti	'laθ-os	'kima
GEN SG	a'vγ-u	ku'tj-u	'laθ-us	'kimat-os
NOM/ACC/VOC PL	a'vγ-a	ku'tj-a	'laθ-i	'kimat-a
GEN PL	a'vγ-on	ku'tj-on	la'θ-on	ki'mat-on

As far as the general properties of these items are concerned, it is worth mentioning the following:

- neuter nouns belonging to class d display two allomorphic variants in complementary distribution, a form X in the syncretic types of nominative/accusative and vocative singular and a form Xt in genitive singular, as well as in plural. This is another instance of stem allomorphy which is inherent to the stems of the items in question and makes them different from the items of the other classes.
- Class c constitutes a rather closed class because its inflection pattern is no more productive. For instance, no neologisms or recently created neuter nouns inflect according to this particular paradigm.
- Class a and class b are the most productive ones, in the sense that they are the inflectional patterns according to which new words are formed, loan words are adapted, and towards which words that previously belonged to another class migrate. These classes are almost identical, with the exception of the syncretic nominative/accusative/vocative types of the singular. They also differ to each other with respect to some other features. For instance, class-b nouns are predominantly of an informal style of language.

It should be noticed that the same inflection classes are also encountered in LAM, but tendencies of case reduction and cross-paradigmatic levelling have rendered their distinction less clear. The data under (14) portray the situation:

(14) LAM a. a'vγ-o 'egg' b. kti 'box' c. 'laθ-us 'mistake' d. 'kima 'wave'

NOM/ACC/VOC SG	a'vγ-o	kti	'laθ-us	'kima
GEN SG	a'vγ-u	ktj-u	('laθ-us / la'θj-u??)	
NOM/ACC/VOC PL	a'vγ-a	ktj-a	'laθ /'laθj-a /'laθt-a /'laθit-a	'kimat-a
GEN PL	----	----	----	----

As the examples in (14) depict, the morphological realization of the genitive plural forms has disappeared, and the singular genitive forms that are still in use are those of the most productive first two classes. The disappearance of the genitive case, assisted by the syncretism affecting the other cases (nominative, accusative, vocative), has reduced the paradigmatic structure of LAM neuter nouns only in the singular. Thus, neuter inflectional paradigms in LAM do not appear as complex as their correspondent ones in SMG.

Interestingly, we also observe a tendency for restructuring the class-c plural forms from *'laθ* (< *'laθi,* with /i/ deletion in unstressed position, see (4) and end of section 1) to *'laθja (<'laθia)* or *'laθita.* Crucially, all dialectal innovations display an *–a* inflectional ending, like the rest of neuter nouns in the corresponding plural forms, as opposed to SMG class-c neuter nouns which end into an *-i.* Since *–a* is also the plural ending of the other three classes, it would be legitimate to assume that the dialect has undergone a cross-paradigmatic levelling in the plural.[10]

Apart from cross-paradigmatic uniformity considerations, a closer examination of the two forms is revealing as far as the role of allomorphy in paradigmatic structure is concerned. With respect to the form *'laθja,* we notice that the spread of the *–a* ending from the other classes to class c does not replace the old ending *–i* but is attached to it (the unstressed /i/ has become a semi-vowel /j/ in front of the /a/). Considering the fact that in Greek (in its standard and dialectal forms) inflectional endings are combined with stems and not with entire words (see Ralli 2005), a plausible hypothesis would be that in LAM, the word *laθi* has been reanalyzed into a stem allomorph. In other words, I suppose that the spread of *-a* among class-c nouns triggers a morpheme-boundary shift, which leads to a reanalysis of the stem form X (*laθ-*) into Xi (*laθi-*) in the context of plural:

(15) [[laθ] –i] → [[laθ] –ia] → [[laθi] –a] → laθja

Significant support in favor of the reanalysis hypothesis relies on the fact that for some LAM speakers, an allomorph Xi (*laθi-*) is also attested in the genitive singular forms, where a less common form *la'θju (< la'θiu)* is encountered, alternating with the old form *'laθ-us.* Again, in *la'θju,* an /i/ appears between the stem *laθ-* and the common genitive ending *–u*, the latter being adopted from the productive inflection classes a and b. Thus, *laθi-* is most likely analyzed as an allomorphic variant of *laθ-*, the two of them being in complementary distribution: *laθ-* appears in nominative/accusative and vocative singular whereas *laθi-* is used in the rest of the paradigm. Interestingly, this allomorphic variation does not rely on any phonological rule, and is, thus, another instance of morphological allomorphy.

It is also worth examining the introduction of new allomorphy, which, as in the previous case, leads to an apparent contradiction: on the one side, there is simplification in grammar because of the levelling of the inflection classes (class-c has disappeared in plural), but on the other side, there is complication in the form of stems: after the cross-paradigmatic levelling, class-c dialectal nouns display a stem allomorphy X ~ Xi which is absent from SMG corresponding verbs. What is the reason for this change? As already shown in the previous section, new allomorphy may be introduced for a particular purpose. In the case of class-c nouns, allomorphy has helped them to restructure their paradigm according to a more productive inflection pattern, by allowing it to adopt the simpler and widely used endings *–a* (NOM/ACC/VOC PL) and *–u* (GEN SG). More importantly, however, the result of the innovation, i.e. the Xi stem, conforms to the least marked and most common neuter stem forms of class-b nouns, which also end in *–i,* as shown in (14). In fact, on the basis of evidence from language acquisition, it is argued by Christophidou (2003) that neuters in *–i* (e.g., spiti 'house') are relatively more productive, and unmarked, than those in *–o* (e.g. vuno 'mountain').

Notice that the prevalence of Xi stem forms is also proved by their penetration in the other classes as well. As an illustration, consider the occurrence of dialectal forms such as *krija'tj-u* 'meat.GEN.SG' and *kri'jatj-a* 'meat.NOM/ACC/VOC.PL' of class-d noun *'kreas* 'meat' which in LAM, as opposed to its SMG realization, has developed a Xi stem. Compare (16) and (17) below:

(16) SMG

NOM/ACC/VOC SG	'kreas
GEN SG	'kreat-os
NOM/ACC/VOC PL	'kreat-a
GEN PL	kre'at-on

(17) LAM

NOM/ACC/VOC SG	kri'jas
GEN SG	krija'tj-u
NOM/ACC/VOC PL	kri'jatj-a
GEN PL	

The fact that allomorphy affects the basic form of stems proves that it contributes to the simplification of the system, in the sense that there is an increase of morphophonological regularity in the plural of neuter inflected forms (Kiparsky 1982). Allomorphy allows underlying forms to be brought into line with more widespread patterns, since the innovative Xi allomorph intervenes in

an adaptive situation to assist the levelling of inflection classes, and in this particular case, to restructure class-c nouns according to more productive and more common forms.[11]

With respect to the role that allomorphy plays in the general morphological system, Drachman (2001: 112) has suggested that allomorphy constitutes a 'normal state' of morphology, and is not just an epiphenomenon. If this claim is true, instances of allomorphy should appear even where there is no system simplification involved. Let us examine the second alternating dialectal type, *'laθita*. In this type, not only an /i/ appears to the original stem form *laθ-*, but also a /t/ segment. Where does /t/ come from? A plausible phonological explanation would be to suppose that /t/ is phonologically inserted as a transition element between the *laθi-* stem form and the *–a* ending. However, /t/ does not belong to the epenthetic elements that are used by the dialect to resolve the hiatus situations (these elements being the fricative /γ/ and the nasal /n/). Therefore, it is not unlikely to postulate that *'laθita* is formed analogically to the plural pattern of class-d nouns, which display the stem allomorphic variation X ~ Xt. This seems to be an unnecessary complication in grammar, since the other form *'laθja* matches perfectly the forms of the productive class-a and class-b nouns, and does not need the /t/ in order to accept the productive ending *-a*. Moreover, the free variation of inflected forms (*'laθja* and *'laθita* in our case) expressing the same inflectional features of one particular word is against a general economy principle governing inflection, which is described by Carstairs (1987: 28-35) as *inflectional parsimony principle*, according to which for every combination of morphosyntactic properties to a given word-class, each word in that class will have one and only one inflectional realization.[12] I would like to suggest that the dialectal creation of the form in *–ita* (*'laθita)* advocates the status of allomorphy as a basic property of morphology. I propose that, in certain cases, allomorphy may assist paradigmatic uniformity and grammar simplification, as shown with the previous verb cases and the example of *'laθja,* but in other cases, it may operate independently. This independent character of allomorphy may cause the creation of unnecessary and more complex segments, as is the example of *'laθita,* and provides a reason why inflectional parsimony seems to be violated. In fact, as Carstairs (1988: 87) suggests, beside the principle of inflectional parsimony, dichotomies or sameness in inflectional morphology may be due to other factors. I suggest that the morphological property of allomorphy is one of them, overriding the particular principle.

Additional proof for the independent functioning of allomorphy in morphology can be found in other dialectal formations of neuter nouns too, which in spite of the fact that they belong to the two commonest inflection classes, class-a and class-b, and, as such, do not need any levelling, they show an alternation between the forms predicted by their inflection class, and other innovative forms containing an allomorphic variation Xt of the less common

class-d. The examples given under (18), *pru'sopata* 'faces' and *'mel'ita* 'honey.PL', illustrate this observation. *pru'sopata* is the innovative plural form of the class-a noun *'prosup-u ('prosop-o* in SMG), which alternates with a plural form *'prosup-a. 'mel'ta / 'mel'ita* are the innovative plural forms of the class-b noun *'mel'i* whose original plural form is *'mel'ja.*

(18) SMG	NOM/ACC/VOC.SG	'prosopo	
		'meli	
	NOM/ACC/VOC.PL	'prosopa	
		??'mel'ja < 'melia	(l' = l palatal)

(19) LAM	NOM/ACC/VOC.SG	'prosupu	
		'mel' < 'mel'i < 'meli	
	NOM/ACC/VOC.PL	'prosupa / pru'sopata	
		'mel'ja / 'mel'ta < 'mel'ita	

4. Resisting paradigmatic uniformity

In the previous sections, we have seen that the existence of a systematic allomorphy pattern may predict how words are distributed into inflection classes. We also saw that allomorphy may contribute to the simplification of paradigmatic structure, and that it has an independent status, since it is involved in paradigmatic restructuring even when it is not necessary. The claim about this independent status may become stronger if we find cases where allomorphy resists tendencies of paradigmatic levelling. To this purpose, I illustrate my arguments with data drawn from nominal inflection of masculine nouns.

SMG masculine nouns inflect according to two inflection classes, as proposed by Ralli (1988, 2000). The basic criterion for their distinction is again stem allomorphic variation. Nouns of the first class have no stem variation, as opposed to nouns of the second class, which display a systematic allomorphy relation of two stem types in complementary distribution, a XV allomorph in the singular and a X allomorph in the plural. See (20) for relevant examples:

(20) SMG		a. 'polemos 'war'	b. 'jitonas 'neighbour' (*jitona ~ jiton*)
SG	NOM	'polem-os	'jitona-s
	GEN	po'lem-u	'jitona
	ACC	'polem-o	'jitona
	VOC	'polem-e	'jitona
PL	NOM	'polem-i	'jiton-es
	GEN	po'lem-on	ji'ton-on

ACC	po'lem-us	'jiton-es
VOC	'polem-i	'jiton-es

Crucially, the same nouns in LAM have undergone a cross-paradigmatic levelling, mainly in plural, but also in the genitive singular, according to which the difference between the two classes has been reduced in favor of the inflectional paradigm of class-a nouns:

(21) LAM

SG	NOM	a. 'polim-us (< 'polem-os)	b. 'jituna-s
	GEN	'polim-u / pu'lem (< po'lem-u)	'jituna / j'ton (< ji'ton-u)
	ACC	'polim-u (< 'polem-o)	'jituna (< 'jitona)
	VOC	'polim-i (< 'polem-e)	'jituna
PL	NOM/ACC/VOC	pu'lem (< po'lem-i)	j'ton' (< ji'ton-i)
	GEN		

In order to understand the situation portrayed in (21), the following points should be taken into consideration:

- The nouns have undergone application of the two basic phonological rules of high vowel deletion and mid-vowel change. A simple comparison of the paradigms in (20) and (21) shows the effect of these rules.
- As already seen in the case of neuter nouns, the morphological realization of the genitive plural has disappeared from LAM inflection.
- There is no morphological difference between the nominative and the accusative cases in the plural paradigm. It has been argued by Ralli, Melissaropoulou & Tsiamas (2004) that this is an instance of a new syncretism, proper to the dialect, which restructures the plural paradigm on the basis of the nominative case.

A comparison of the paradigms of (20) and (21) also reveals that in LAM, a cross-paradigmatic levelling has occurred in the plural of class-b nouns, which conform to the inflectional paradigm of class-a ones.[13] This levelling has been facilitated by a dialectal innovative form syncretism between the nominative and the accusative cases, as opposed to their different morphological realizations in SMG. Crucially, however, certain masculine nouns, which in SMG are regularly inflected according to class b, resist levelling in the dialect. Consider the inflection of examples like *pa'pas* 'priest' or *ka'fes* 'coffee' under (22), which contain an allomorphic variation X ~ Xδ:

(22) LAM pa'pas 'priest' (papa ~ papaδ) ka'fes 'coffee' (kafe ~ kafeδ)

SG	NOM	pa'pa-s	ka'fe-s
	GEN/ACC/VOC	pa'pa	ka'fe

PL NOM/ACC/VOC pa'paδ-is (*pa'p-i) ka'feδ-is (*ka'f-i)
GEN

As depicted in (22), these dialectal formations keep their class-b inflectional pattern, as opposed to other class-b nouns, like *'jitunas* (21), which have undergone an inflection-class shift from class b to class a. In his study of the diachronic development of the masculine plural forms ending in *–δ-es,* Drachman (2001: 116) has suggested that the presence of the Xδ allomorph has allowed the particular stems to keep stress on the same vowel in both singular and plural:

(23) SMG Singular Plural

a.	fi'γa-s	fi'γαδ-es	b.	ka'fe-s	ka'feδ-es
	fugitive	fugitives'		coffee	coffees

This suggestion is supported by evidence from LAM inflection. In the dialect, the δ-form is closely related to the *–es* ending, which does not cause a stress shift, as opposed to the *–i* ending which triggers a change in stress. The nouns under (21) and (22) illustrate this situation. A possible cross-paradigmatic levelling in favor of the *–i* ending, would have caused a stress shift to the inflectional ending, and consequently, an erasure of the δ-allomorph, as seen in (22) (e.g., **ka'f-i, *pa'p-i*). Since this is not the case, we may suppose, following Drachman, that the allomorphic variation X ~ Xδ assists stress preservation.

However, if we look at items like *'jitonas* under (20b), we realise that their stem has also a systematic allomorphic variation X ~ Xa, which did not prevent them from changing inflection class in LAM, and the position of stress (21b). Is there a particular reason for the different behaviour between the items like the one in (21b) and those in (22)?

At this point, I would like to draw attention to the fact that levelling affects nouns like *'jitunas* (20) as far as the functional, inflectional part is concerned, while the stem remains unaffected. In other words, in these nouns the inflectional ending *–es* is replaced by the most common *–i*, but this change has no impact on the stem form. On the contrary, a possible levelling of nouns like *papas* and *kafes* would have triggered a change of their stem form as well (i.e. it would have erased their –V(owel)δ- segment), which is a piece of lexical information:

(24)a. ka'feδ-is > *ka'f-i b. pa'paδ-is > *pa'p-i

In fact, the elimination of the –Vδ- segment is well attested in a small number of dialectal plural forms, like *skupiδjari* 'garbage men', of masculine nouns ending in *–ars* (< SMG *aris*, e.g. *skupi'δjars* < SMG *skupi'δjaris* 'garbage man'), which

have undergone deletion of the word internal sequence of Vδ, and do not appear as **skupiδjar'δi.*

On the basis of the observation above, and further elaborating on the main claim of the paper about the major role of allomorphy in inflectional morphology, I would like to suggest that the systematic allomorphy X ~ Xδ, in cases like the ones examined under (22), assists the preservation of lexical structure, when this structure is at stake, that is, when pieces of lexical information risk to be erased. Therefore, forms such as the ones in (22) resist levelling.

This suggestion is further supported by evidence drawn from the derived nouns in *–as* denoting a profession. A typical example of these nouns is *psomas* 'baker' that contains the stem *psom-* 'bread' and the derivational suffix *–a(s),* the latter displaying an allomorphic variation a ~ aδ-. Let us examine *psomas* in its SMG and LAM (25) realizations:

(25)a. SMG		*pso'mas* 'baker'	b. LAM
SG	NOM	pso'ma-s	psu'ma-s
	GEN/ACC/VOC	pso'ma	psu'ma
PL	NOM/ACC/VOC	pso'maδ-es	psu'maδ-is (**psu'm-i)*
	GEN	pso'maδ-on	

What we see in (25b) is that *pso'mas* in LAM resists cross-paradigmatic levelling in plural. If levelling had occurred, it would have triggered an erasure of the surface realization of the derivational affix and its allomorphic variation -a- ~ -aδ-. In order to provide a plausible explanation, it is worth noticing that in derivational suffixation, like the one under examination, allomorphy is part of the suffixal substance, and thus of primary importance. A possible cross-paradigmatic levelling would have led to a form like **psu'm-i,* without the presence of the typical allomorph *Xδ.* Therefore, there is good reason to argue that in derived nouns, the presence of allomorphy provides significant support to the structural existence of the derivational suffix, in the sense that allomorphy helps reinforcing its lexical status by resisting levelling. In other words, the presence of allomorphy could be interpreted as a contribution to structure preservation.

5. Conclusions

The research topic in this work was to find out whether non-phonologically conditioned allomorphy is just the synchronic residue of historical processes or a basic property of morphological structure.

After a survey of several allomorphy phenomena in Modern Greek, and in the Greek dialectal varieties of Lesvos, Kydonies and Moschonisia, I argued that allomorphy plays an important role in morphological formations, and that systematic allomorphy patterns have their own regularity constraining paradigms, paradigmatic organization, and paradigmatic restructuring. I showed that, in its interaction with inflectional morphology, allomorphy tells us how inflected words are organized into paradigms, contributes to grammar simplification, but also assists lexical pieces of information, stems and derivational affixes to resist levelling when structure preservation is at stake. Moreover, I also claimed that allomorphy shows a certain independency in that it may arise in certain situations of paradigmatic restructuring even against grammar simplification. Thus, I agree with Drachman (2001, 2003) that allomorphy is not a negative morphological property.

6. Notes

* I am very much indebted to Geert Booij, Gaberell Drachman, Brian Joseph and Dimitris Papazachariou for their precious comments on a previous draft of this paper.

[1] The term 'basic stem' has been employed by Aronoff (1994) and Pirelli & Battista (2000) to denote a stem form that is synchronically unpredictable on the basis of another stem in the paradigm.

[2]These Asia Minor dialects were spoken once in the Greek speaking towns of Kydonies and Moschonisia, which are situated on the West Coast of Turkey. In 1922, Greeks were expulsed from Asia Minor, and today, the particular dialects are still spoken by refugees and their descendants in a number of villages on the island of Lesvos. The actual Turkish names for the towns of Kydonies and Moschonisia are Ayvalik and Cunda respectively.

[3] In the imperfect and the aorist, the ending following the stem is segmented into two parts: in an aspectual marker and in a formative representing the features of tense, person and number. In the aorist, the perfective aspectual value is realized by an *–s-*, while in the imperfect, the imperfective value is expressed by a *-γ-* alternating with *–us-*. The choice of the particular form may vary among the speakers, depending on the language register or on dialectal variation. For instance, the *–γ-* forms appear in the southern dialects of Greece, while the *–us-* types characterize the northern dialects and are used in a more formal style of language. As noted by Ralli (1988), the *–γ-* was originally an epenthetic element, which has been reanalysed into an aspectual marker.

[4]Notice, however, that with the term 'inflection-class demarcator' I do not mean that stem allomorphy is generally counted as part of the morphosyntactic features, which are mainly expressed by the affixal segments.

[5] A SCHEMA for Bybee & Slobin (1982: 267) is a statement that describes the phonological properties of a morphological class, and is introduced in relation to the past tenses of English irregular verbs (e.g. *sang / sing*).

[6] According to LAM phonology unstressed /u/ and /i/ are deleted, and /e/ and /o/ become /i/ and /u/ respectively. See (4) and end of section 2.

[7] *A'γapum* is the form used in Lesvos, while *a'γapumna* is the one used in the Asia Minor dialect of Kydonies and Moschonisia.

[8] The adoption of a X(a) stem by some irregular class-a verbs could be defined as a case of attraction, using Maiden's (2003) terminology, in the sense that class-b verbs spread their X(a) stem and its distributional pattern.

[9] Cf. Drachman (2000) for a similar observation regarding the role of the introduction of new allomorphy.

[10] Within an optimality-theory framework, Ralli, Melissaropoulou and Tsiamas (2004) have interpreted this levelling as the result of an output-output constraint, which requires uniformity across inflection classes, and is ranked higher than the input-output paradigm faithfulness constraint.

[11] This role of allomorphy has also been pointed out by Drachman (2001).

[12] Inflectional parsimony resembles to the Uniqueness Principle put forward by Pinker (1984: 113).

[13]As in the case of neuter nouns, an optimality-theory account by Ralli, Melissaropoulou and Tsiamas (2004) has interpreted this levelling across paradigms as the result of an output-output constraint of cross-paradigmatic uniformity, ranked higher than the input-output paradigm faithfulness constraint.

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8. Περίληψη

Στο άρθρο μελετάται ο ρόλος της αλλομορφίας στην κλίση. Υποστηρίζεται ότι η ύπαρξη αλλομορφίας μπορεί να χρησιμοποιηθεί ως κριτήριο για τη διάκριση σε κλιτικές τάξεις και συμβάλλει στην αναδιοργάνωση των κλιτικών παραδειγμάτων για την επίτευξη παραδειγματικής ομοιομορφίας. Προτείνεται ότι η αλλομορφία είναι βασική ιδιότητα του τομέα της μορφολογίας και ως τέτοια μπορεί να δημιουργήσει αντιστάσεις στις τάσεις απλοποίησης των παραδειγμάτων όταν κινδυνεύουν να χαθούν σημαντικές πληροφορίες λεξικού περιεχομένου. Οι θεωρητικές θέσεις υποστηρίζονται με παραδείγματα από την Κοινή Νεοελληνική, τη διάλεκτο της Λέσβου και τη Μικρασιατική Διάλεκτο των Κυδωνιών και Μοσχονησίων.