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## Morphology meets Dialectology: insights from Modern Greek dialects

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**Abstract.** The focus of this paper is to discuss the relation between morphology and dialectology. On the one hand, it shows that the study of dialects offers new challenges to morphology, since dialects form an important source of morphological phenomena, and dialectal research allows us to throw light on theoretical morphological issues. On the other hand, it argues that morphological theory may provide accurate and interesting tools for the analysis of dialectal data. In addition, it shows that dialectal morphology can be profitable for typology and historical morphology, because the study of dialects may shed light on possible language structures and language change.

The data to be used include examples from several Modern Greek dialects. They refer to coordinative compounding, allomorphy, a borderline case of prefixation and compounding, as well as to a contact-induced change of the morphological type of one particular dialectal system.

**Keywords:** Morphology, dialectology, compounding, prefixation, allomorphy, language change, Modern Greek.

### 1. Introduction

In morphological research, dialects have been accounted for sporadically and rather unsystematically, since modern morphological theory is mainly oriented towards the standard form of languages. As a result, a considerable number of interesting phenomena in spoken dialects of various languages has been left out of consideration, and thus overlooked in morphological studies. As Anderwald and Kortmann (2002: 160) point out, the limitation to standard varieties is problematic, especially in languages with a long literary tradition, where the setting of norms has always played an important role, and certain features do not reflect natural change, but rather more or less arbitrary changes, which are imposed by prescriptivists. This applies to the situation in Modern Greek (hereafter MG), as the standard language (hereafter SMG) sometimes gives a false picture of what the grammars of the MG dialects are like.

In this paper, I argue that a closer look at dialectal morphology is profitable from several points of view.

First, research from the dialectal domain is crucial from the theoretical point of view: it shows that dialectology helps refining morphological approaches, since dialectal phenomena offer a rich testing ground for morphological theoretical claims and proposals. In this study, I deal with the following points, which are subject to discussion in morphological theory:

- the necessity of formal morphological constraints;
- the role of allomorphy in morphological systems;
- the demarcation of prefixation and compounding;

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- language typology and paradigmatic structure.

Second, the application of theoretical morphological approaches to dialectal phenomena may provide accurate and interesting analyses of these phenomena, since theoretical proposals add a new dimension to the old description of dialects.

Third, dialectal evidence may offer additional insights about linguistic change and typology, i.e. it can shed light on how a grammar of a particular language may look like, and what its structural limits are. For instance, a number of grammatical features and morphological structures that are detected in several MG dialects are not part of SMG. In this sense, dialects constitute a rich source of information on the grammatical possibilities of MG as well as on its historical evolution.

Research on MG dialects offers several interesting cases that illustrate the points above. In particular, I will deal, first, with the nature of morphological constraints, and with phenomena proper to morphology. By making use of dialectal evidence, I aim to contribute to the debate about the architecture of grammar, and the autonomy of morphology. To this purpose, I will examine the operation of a morphological constraint on an innovative pattern of compounds during the late Medieval period (around the 14<sup>th</sup> c. AD), namely the set of coordinative verbal compounds, as well as the crucial role of stem allomorphy in the organization of inflectional paradigms. Second, I will tackle the issue of the demarcation of morphological entities and word-formation processes by providing evidence about a borderline case, which is situated between prefixation and compounding. I will show that this case also relates to the discussion about the notions of morphological productivity and creativity. Finally, with the use of evidence drawn from Cappadocian, a peripheral MG dialect, I will question the structural limits of a linguistic system with respect to change; more specifically, I will demonstrate how a linguistic system may shift from one type to another, as a result of contact-induced change.

The data to be examined include examples from several MG dialects, and are extracted from grammars of individual dialects, as well as from the oral corpora of the *Laboratory of Modern Greek Dialects* at the University of Patras.

## 2. The Bare-stem Constraint

If morphology is different from syntax or phonology, and forms a module of its own, it should display entities and phenomena that are different from those of the other modules. In this section, I discuss a constraint that seems to be proper to morphology, since it applies to stems, that is to constituents playing a significant role in morphological structures (especially in fusional languages such as Greek, where inflected words are made up of stems and inflectional endings).<sup>1</sup> To this purpose, I make use of evidence from verbal coordinative compounding, which shows a considerable productivity in MG dialects.

As pointed out by Ralli (2007, 2009, in preparation.a), compounding is a word-formation process which is very productive in MG. There are compounds of all

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<sup>1</sup> Following Ralli (1988, 2005), I assume that the morphology of MG is stem based, and that there is no structural difference between a stem and a root, on synchronic grounds, since stems can be morphologically simple (in this sense, they may coincide with roots), or morphologically complex, which may contain derivational affixes (derived stems) or more than one stem (compound stems). This position is also diachronically justified because the ancient thematic vowels have lost their function to form stems out of roots. See also Kiparsky (2009) who claims that MG verbal compounding and derivation are stem based.

types and categories, the most peculiar of which are those of the verbal coordinative type. These formations are not usually found in the other Indo-European languages, and did not characterize Classical Greek (5<sup>th</sup>-4<sup>th</sup> c. BC), although we have a poor knowledge of the spoken styles of the language of this period.<sup>2</sup> Like other Greek compounds, they constitute phonological words (i.e. they bear one stress), have a stem as their first member, and a compound marker/linking element *-o-* between the first and the second constituents.<sup>3</sup> Semantically, they combine two verbal stems of compatible or opposite meanings. Typical examples of these compounds are the following:<sup>4</sup>

- |                     |         |         |
|---------------------|---------|---------|
| (1)a. aniyoklino    | < aniy- | klino   |
| to open and close   | open    | close   |
| b. benovjeno        | < ben-  | vjeno   |
| to enter and go out | enter   | go out  |
| c. abarokliðono     | < abar- | kliðono |
| bar and lock        | bar     | lock    |
- (from Ralli 2007, 2008b)

Following the Greek historical grammars (Jannaris 1897, Hatzidakis 1905-7), verbal coordinative compounds can be traced back to the end of the Hellenistic period (around the 2<sup>nd</sup> c. AD), when a verb *afksomio* ‘increase-decrease’ is attested (Ptolem. Synt. Math. 6,7, as cited by Andriotis 1957: 44), which contains a portion of the Ancient Greek (hereafter AG) verb *auksano*: ‘increase, raise’ and the verb *meio*: ‘decrease, reduce’.<sup>5</sup> The number of verbal coordinative compounds has increased in subsequent periods, especially during the late Medieval period (after the 14<sup>th</sup> c. AD), as attested by several vernacular texts (see Manolessou & Tsolakidis 2007, Nicholas & Joseph 2009, Ralli 2008b). Today, they can be found in SMG (as shown in (1)), but they do not belong to the most productive compound patterns. On the contrary, verbal coordinative compounding is productive in several MG dialects. Andriotis (1957) offers numerous examples taken from the range of MG dialects, among which from the most peripheral ones, such as Pontic, Cappadocian, and Cypriot:<sup>6</sup>

<sup>2</sup> Andriotis (1957) suggests that there is a single example of a verbal coordinative compound in Ancient Greek, which is attested in the Homeric poems (Iliad 16.792), *strephedine:then* ‘twist’ (dual number). However, the various comments given by scholars of the particular verse (e.g. Eustache from Thessaloniki, 12<sup>th</sup> c. AD) call into question whether this example constitutes a real coordinative compound.

<sup>3</sup> According to Ralli (2008a), the linking element *-o-* between the first and the second constituents marks the process of compounding, and may be considered as a ‘compound marker’. As such, it is not a derivational (or inflectional) suffix.

<sup>4</sup> In this paper, the examples will be given a broad phonological transcription, and stress will be noted only if it is relevant to the argumentation.

<sup>5</sup> As is widely known, the vocalic and consonantal systems of Greek have undergone a significant change during the Hellenistic period. Therefore, AG examples will be transcribed according to the Classical Greek pronunciation, while examples of the Hellenistic period (approximately 3<sup>rd</sup> c. BC – 3<sup>rd</sup> c. AD) as well as those of Medieval and Modern Greek will be given a MG transcription.

<sup>6</sup> All three dialects were (or are) spoken outside the Greek mainland and the islands. Cypriot is found in Cyprus. Pontic was spoken in the area of Pontus, in North-East Turkey. Today, it is still spoken by an unknown number of Pontic Muslims who still live in this area (see MacKridge 1987), as well as by Pontic refugees who settled in Greece after the end of the war between Greece and Turkey in 1922. Cappadocian was spoken in about 32 Greek-speaking settlements in central Asia Minor (today’s Turkey), before 1923, when the exchange of populations between Greece and Turkey took place, following the Lausanne treaty. Today, there are few remaining native speakers, in certain parts of

(2)a. Pontic:	lambovrexī	<	lamb-	vrexī
	shines and rains		shines	rains
c. Cappadocian:	maramuḍjazu	<	mara- <sup>7</sup>	muḍjazu
	to fade and become numb		fade	become numb
d. Cypriot:	skalopotizo	<	skal-	potizo
	to grub and water		grub	water

Dialectal evidence is interesting for the analysis of these compounds: it helps drawing conclusions about their structure, in particular about the absence of word-internal derivational suffixes, and consequently, about the interaction of compounding and derivation.

On the basis of SMG compounding, Ralli & Karasimos (to appear) have observed that, with some exceptions, the first constituent of the constructions under consideration is not derived. The MG dialects do not only corroborate this observation, but help us to formulate a plausible hypothesis about a possible account of it. A considerable number of dialectal examples show that verbal derivative stems participating as first constituents of coordinative compound structures are stripped of their derivational suffixes. As an illustration, consider the following cases that are taken from several geographical areas, as cited by Andriotis (1957). For clarity reasons, the constituents are separated by a hyphen, which does not appear in Greek orthography.

(3)a. Crete:	alon-o-θerizo	<	alon-iz-	θerizo
	to thresh and reap		thresh	reap
b. Symi:	abar-o-kliḍono	<	abar-on-	kliḍono
	to bar and lock		bar	lock
c. Rhodes:	imer-o-γalinizo	<	imer-on-	γalinizo
	to tame and calm down		tame	calm down
d. Kefalonia:	klaḍ-o-kaθarizo	<	klaḍ-ev-	kaθarizo
	to prune and clean		prune	clean
e. Euboea:	ksimerovraḍjazome	<	ksimeronome	vraḍjazome
	to spend all time		be overtaken by day	be overtaken by night
f. Epeiros :	zim-o-majirevo	<	zim-on-	majirevo
	to knead and cook		knead	cook
g. Lesbos:	kukl-u-stsipazu <sup>8</sup>	<	kukl-on-	stsipazu
	to wrap up and cover		wrap up	cover
h. Imbros:	majir-u-kinonu	<	majir-ev-	kinonu
	to cook and pour		cook	pour

Note that in (3), the first constituent behaves like a verb: it has the meaning and the argument structure of a verb, although it is deprived of the verbal derivational

Northern Greece (in the areas of Karditsa, Volos, Kilkis, Larisa, Thessaloniki, Klikis, Chalkidiki, Kavala, and Alexandroupoli), all of them descendants from Cappadocian refugees.

<sup>7</sup> In this particular example, there is no compound marker *-o-*, and the aorist stem *mara-* of the verb *maren(ome)* 'fade' is used.

<sup>8</sup> Due to mid-vowel raising in unstressed position, /o/ becomes /u/ in the northern dialects, among which, those of Lesbos and Imbros.

suffix, and superficially looks like a noun stem, where it derives from.<sup>9</sup> On the basis of this evidence, and in order to account for the impossibility of derivational suffixes to surface within compounds, Ralli & Karasimos (to appear) have proposed that the form of Greek compounds is affected by a morphological constraint, which is responsible for the non-overt realization of the derivational suffix, the so-called *Bare-stem constraint*, according to which stems appearing as first constituents of compound words must be as bare as possible. This constraint is motivated by the fact that Greek compounds are basically [stem stem] or [stem word] structures,<sup>10</sup> where the first constituent, being a stem, needs to be in a tight relation with the second constituent, i.e. with another stem or a word, depending on the case. Ralli & Karasimos (to appear) have argued that the strong bond between the two constituents is better ensured if the first stem is bare, in other words if it does not show any additive elements, i.e. suffixes.

In addition to showing the existence of purely morphological constraints, dialectal evidence of verbal coordinative compounding can also be useful as an illustration on how change may affect a linguistic system. While SMG has developed mostly in the last two centuries, the MG dialects constitute variants which arose from the Hellenistic Koine (approximately 3<sup>rd</sup> c. BC – 3<sup>rd</sup> c. AD). Given the fact that the vernacular literature is not a safe source of information about the use of various compounding types – for instance, Beaton (1989) provides a lot of examples which have been created for literary purposes but are absent from the everyday language – dialects help us to detect the rise and the evolution of verbal coordinative compounds in MG.<sup>11</sup>

### 3. Stem allomorphy in the organization of paradigms

In what follows, I try to provide substantial proof for the existence of a purely morphological phenomenon and its implications for the organization of grammar, similar to what has been pointed out in Booij (1997a,b). On the basis of evidence from SMG and three varieties of the same dialectal group, namely Lesbian, Aivaliot and Moschonisiot (hereafter LAM), I deal with non-phonologically conditioned stem allomorphy, and its role in the computation of inflectional paradigms.<sup>12</sup> I argue that this type of allomorphy is not just a synchronic residue of historical processes, but may lead to the distinction of inflection classes. In this respect, it cannot be seen as a simple deviation from form uniformity, but as a central morphological property which constrains paradigm organization, and paradigm restructuring.<sup>13</sup>

<sup>9</sup> As already mentioned, there are some exceptions to this rule, see for instance, the verb *pijenoerxome* lit. go-come = ‘come (and) go’, which keeps its internal affix *-en-*. These exceptions are discussed in Ralli & Karasimos (to appear).

<sup>10</sup> For details on the structure of Greek compounds, see Ralli (1992, 2005, 2007, 2009, in preparation.a), Drachman & Malikouti-Drachman (1994), Nespor & Ralli (1996), and Malikouti-Drachman (1997).

<sup>11</sup> Ralli (2008b) provides a possible explanation about their appearance in MG.

<sup>12</sup> Lesbian is spoken on the island of Lesbos, while the Asia-Minor dialectal varieties Aivaliot and Moschonisiot were spoken once (before 1922) in the North-west coast of Turkey (former Asia Minor), namely in the areas of Aivali (today Ayvalik) and Moschonisi (today Cunda). The last two varieties are still spoken by second and third generation refugees in certain Asia-Minor dialectal enclaves of the island of Lesbos (cf. Ralli in preparation.b).

<sup>13</sup> For the close relation between allomorphy and paradigmatic morphology, see also Booij (1997a,b), and Maiden (1992, 2003).

It is well known that nouns and verbs of fusional languages are divided into inflection classes, the classification of which is based on certain specific criteria. In SMG, verbs are inflected according to two major inflection classes, each class bearing its own inflectional endings in at least two paradigms, those of the present and the imperfect tenses. According to Ralli (1988, 2005), this classification is based on the systematic presence or absence, of a specific allomorphy pattern, which characterizes the stems, and has assumed the role of an inflection-class marker, in the sense that verbs that do not bear it are predicted to inflect differently from verbs that have it.<sup>14</sup> This pattern is described as X(a) ~ Xi, where the X(a) form characterizes paradigms of an imperfective aspect (present, imperfect and future continuous), while the Xi form is typical of paradigms of the perfective aspectual value (aorist and simple future). Verbs whose paradigms display this pattern belong to inflection-class II. Verbs which are not subject to this pattern inflect according to inflection-class I. As an illustration, compare the inflection of the SMG class-I verb *γράφω* ‘to write’ (4) with that of the SMG class-II verb *αγαπό* ‘to love’ (5):

(4) SMG: absence of stem allomorphs			
	a. Present	b. Imperfect	c. Aorist
SG 1P	γράφ-ο	έ-γραφ-α <sup>15</sup>	έ-γραπ-σ-α <sup>16</sup>
2P	γράφ-ις	έ-γραφ-ες	έ-γραπ-σ-ες
3P	γράφ-ι	έ-γραφ-ε	έ-γραπ-σ-ε
PL 1P	γράφ-ουμε	γράφ-αμε	γράφ-σ-αμε
2P	γράφ-ετε	γράφ-ατε	γράφ-σ-ατε
3P	γράφ-ουν	έ-γραφ-αν	έ-γραπ-σ-αν

  

(5) SMG: Stem allomorphs: αγαπ(a) ~ αγαπι			
	a. Present	b. Imperfect	c. Aorist
SG 1P	αγαπ(ά)-ο	αγάπα-γ-α / αγαπ-ús-α <sup>17</sup>	αγάπι-σ-α
2P	αγαπά-ς	αγάπα-γ-ες / αγαπ-ús-ες	αγάπι-σ-ες
3P	αγαπά-ι	αγάπα-γ-ε / αγαπ-ús-ε	αγάπι-σ-ε
PL 1P	αγαπά-με	αγαπά-γ-αμε / αγαπ-ús-αμε	αγαπί-σ-αμε
2P	αγαπά-τε	αγαπά-γ-ατε / αγαπ-ús-ατε	αγαπί-σ-ατε
3P	αγαπά-νε	αγάπα-γ-αν / αγαπ-ús-αν	αγάπι-σ-αν

Ralli’s proposal for the role of allomorphy as an inflection-class marker finds crucial support in the dialectal domain. Consider the evidence from LAM in (6) and (7) below, where the paradigms of present, imperfect, and aorist, of the verbs *γράφω*

<sup>14</sup> This suggestion is in accordance with Maiden (1992) who has shown that allomorphy patterns are very robust in paradigms, on the basis of evidence drawn from Italian.

<sup>15</sup> The *e-* preceding the verbal stem is the augment. It appears in front of stems beginning by a consonant and is a stress carrier in the past tenses (imperfect and aorist). See Babiniotis (1972), Kaisse (1982), Ralli (1988), and Drachman & Malikouti-Drachman (2001) for more details on this.

<sup>16</sup> In the perfective context, the consonant /f/ of the verb stem *γραφ-* becomes /p/ in front of the aspectual marker *-s-*. Note that this is a case of phonologically conditioned allomorphy.

<sup>17</sup> *-γ-* or *-us-* are markers of an imperfective aspectual value, and are rather free variants in SMG. They characterize only verbs belonging to Class-II, since verbs of Class-I do not display these markers. In 2P and 3P of the singular, *-γ-* is palatalized before a front vowel.

and *αγαπ(ά)ο*, show the presence of the same systematic allomorphy pattern X(a) ~ Xi, as in SMG.<sup>18</sup>

(6) LAM: absence of stem allomorphs			
	a. Present	b. Imperfect	c. Aorist
SG 1P	γράφ-u	έ-γράφ-a	έ-γραπ-s-a
2P	γραφ-s	έ-γραφ-is	έ-γραπ-s-is
3P	γραφ	έ-γραφ-i	έ-γραπ-s-i
PL 1P	γράφ-umi	γράφ-ami	γράφ-s-ami
2P	γράφ-iti	γράφ-ati	γράφ-s-ati
3P	γράφ-in	γράφ-an	γράφ-s-an

(7) LAM underlying stem forms: X(a) ~ Xi (αγαπ(a) ~ αγαπι)			
	a. Present	b. Imperfect	c. Aorist
SG 1P	αγαπ-ό	αγράφ-um	αγράφ-s-a <sup>19</sup>
2P	αγαπά-s	αγάπα-s	αγράφ-s-is
3P	αγαπά	αγάπα	αγράφ-s-i
PL 1P	αγαπ-ύμι	αγαπ-ύς-ami	αγαπί-s-ami
2P	αγαπ-ύτι	αγαπ-ύς-ati	αγαπί-s-ati
3P	αγαπ-ύν	αγαπ-ύς-an	αγαπί-s-an

It is important to notice that LAM provides additional and substantial proof for the general classificatory role of stem allomorphy: it shows that the class-II pattern has been spread to a number of verbs, the old stems of which displayed an allomorphic variation, but did not conform to the systematic X(a) ~ Xi pattern. As an example, consider the Medieval Greek verb *vulízo* ‘to go down’ (Andriotis 1992), which in SMG appears as *vulíazo* (8), while in LAM as *vlo* (9):

(8) SMG: stem allomorphs vuliaz ~ vuliay			
	a. Present	b. Imperfect	c. Aorist
SG 1P	vulíaz-o	vúliaz-a	vúliak-s-a (γ → k / -s)
2P	vulíaz-is	vúliaz-es	vúliak-s-es
3P	vulíaz-i	vúliaz-e	vúliak-s-e
PL 1P	vulíaz-ume	vulíaz-ame	vuliák-s-ame
2P	vulíaz-ete	vulíaz-ate	vuliák-s-ate
3P	vulíaz-un	vúliaz-an	vúliak-s-an

(9) LAM underlying stem allomorphs: X(a) ~ Xi (vul(a) ~ vuλί <sup>20</sup> )			
	a. Present	b. Imperfect	c. Aorist
SG 1P	v1-o	vúl-um	vύλ-s-a
2P	v1a-s	vúla-s	vύλ-s-is

<sup>18</sup> Like in the northern dialects, in LAM, unstressed high vowels /u/ and /i/ are deleted, and unstressed mid-vowels /e/ and /o/ become /i/ and /u/ respectively (see also footnote 8). For instance, underlying *γράφ-i* and *έγραπ-s-es* become *γραφ* and *έγραπ-s-is*.

<sup>19</sup> The unstressed /i/ of *αγαπι*- is phonologically deleted.

<sup>20</sup> As already mentioned, in LAM /i/ and /u/ deletion occurs in unstressed position, and palatalization of /l/ before the high front vowel /i/.

3P	vla	vúla	vúl-s-i
PL 1P	vl-úmi	vl-ús-ami	vlí-s-ami
2P	vl-úti	vl-ús-ati	vlí-s-ati
3P	vl-un	vl-ús-an	vlí-s-an

We see in (8) that the SMG verb belongs to class-I, because it does not display the systematic X(a) ~ Xi pattern, and its unsystematic stem allomorphy *vuliaz* ~ *vuliaz* cannot determine a verbal inflection class. On the contrary, the LAM verb stem in (9) has undergone restructuring, according to the pattern X(a) ~ Xi (*vul(a)* ~ *vuli*), which made it conform to the class-II paradigms. Following Kuryłowicz (1949), I claim that a process of analogy has occurred in LAM in order to establish a central contrast of the language, i.e. the presence or absence of the X(a) ~ Xi allomorphy pattern, which is used as an inflection-class marker, and replaces a more marginal allomorphy pattern. The dialectal levelling of various irregular verb stems according to the X(a) ~ Xi pattern may be considered as an optimization of the verb system on the level of its lexical stem entries. In Kiparsky's (2003) terms, this levelling removes the irregular allomorphic variants from certain verbs, establishes a uniform stem-allomorphy pattern, and optimizes lexical representations by increasing their conformity to the system.

It should be noticed though that as far as disyllabic verbs are concerned, the particular change seems to be constrained by a phonological restriction too: only those beginning with two-consonant clusters undergo restructuring (see 10a,b):

(10)	SMG		LAM
	Verb	Stem allomorpha	Verb Stem allomorpha
a.	klino	klin ~ kli	klo kl(a) ~ kli
	close		
b.	ftino	ftin ~ fti	fto ft(a) ~ fti
	spit		
c.	lino	lin ~ li	no change
	untie		
d.	xino	xin ~ xi	no change
	pour		

Nevertheless, it is often the case that even disyllabic verbs beginning with one consonant are affected by the change, when they are used as second components in prefixed or compound structures. For instance, the verb *xino* 'pour' (10d) adopts the X(a) ~ Xi pattern, when it combines with a prefix: consider the SMG verb *perixino* (allomorphs *perixin* ~ *perixi*), which in LAM assumes the form of *pirixo* 'pour over' (allomorphs *pirix(a)* ~ *pirixi*).

Additional support for the productivity of the X(a) ~ Xi pattern is provided by dialectal novel formations, i.e. those which did not exist in Ancient Greek. For instance, a SMG verb like *kalinixizo* 'say good night' (< *kali* 'good' + *nixt(a)* 'night' + *-izo*) appears in LAM as *kalinixto* (stem allomorpha: *kalinixt(a)* ~ *kalinixti*). Moreover, the same pattern is frequently used in the inflection of verbs, the root of which has been borrowed from other languages, mostly from Turkish. Examples such as *katsirdo* 'escape, get away' (allomorphs *katsird(a)* ~ *katsirdi*, Turkish *kacirmak* 'escape') or *savurdo* 'throw down' (allomorphs *savurd(a)* ~ *savurdi*, Turkish *savurmak* 'throw away') are typical of this kind of formations.

Finally, it is important to stress that the dialectal evidence provided above confirms Booij's (1997ab) hypothesis about the systematic role of allomorphy in paradigmatic relationships, and supports the thesis concerning the autonomy of morphology as a grammatical domain with phenomena of its own, non-phonologically conditioned stem allomorphy being one of them.

#### 4. On a borderline case between morphological categories

In this section, I deal with lexical items, the structural status of which is unclear, and have always been a problem for morphological theory, since they cannot be classified into one particular category, and the processes in which they participate cannot be adequately delimited. In particular, I examine a dialectal phenomenon on the border between prefixation and compounding, which involves the formation of a small number of LAM adverbs beginning with *sa* (11). This phenomenon is an example of an ongoing change, and may provide insights about the distinction between two important notions in morphology, productivity and creativity.

Consider the following examples in their dialectal form, which are taken from Ralli & Dimela (to appear):

- (11)a. *sapéra* 'far away' < *sa péra* 'away'  
 b. *saðó* 'over here' < *sa iðó* 'here'  
 c. *sáðju* 'over here' < *sa éðju* 'here'  
 d. *sáðuna* 'over here' < *sa éðuna* 'here'  
 e. *sakí* 'over there' < *sa ikí* 'there'  
 f. *sákina* 'over there' < *sa ékina* 'there'  
 g. *sáftu* 'over there' < *sa éftu* 'there'  
 h. *sáfna* 'over there' < *sa éfna* 'there'  
 j. *sakátu* 'straight down there' < *sa kátu* 'down'  
 i. *sapánu* 'straight up there' < *sa apánu* 'above'  
 k. *samésa* 'more inside' < *sa mésa* 'inside'  
 but  
 l. \**sáksu* 'more outside' < *sa óksu* 'outside'

These adverbs contain an adverbial word, which is preceded by a bound element *sa*. The latter originates from an autonomous directional adverb *ísa* (*isja* in SMG), and functions as an intensifier of the locative meaning of the base.

Like in SMG (12a), *ísa* in LAM (12b) can also be used as an autonomous directional adverb, modifying verbs, but not locative adverbs, since this function has been taken over by its reduced form:

- (12)a. SMG                                      b. LAM  
 kops-to *isja*                                  kops-tu *ísa*  
 cut-it straight                                cut-it straight  
 pijene *isja kato*                            pani sakatu                                  vs. \**pani ísa katu*  
 go straight down                            go straight.down  
 'go straight down there'

*ísa* has become *sa* after a phonological attrition through initial /i/ deletion. As shown by Ralli & Dimela (to appear), in the case of *sa* adverbs, phonological attrition cannot constitute a safe criterion for assigning a prefixal status to *sa*, since the initial

unstressed /i/ deletion, as well as that of the word-internal /j/ are due to general phonological laws, which apply to LAM independently of the particular morphological environment of *sa* formations. According to Newton (1972), unstressed /i/ is deleted at the beginning of words (the initial stressed /i/ of *ísja* becomes unstressed as a result of *ísja* becoming part of a larger word that has its single stress elsewhere), and /j/ is usually erased in word-internal contexts, between /s/ and a vowel).

Ralli & Dimela (to appear) have proposed that an element such as (*i*)*sa* still keeps its lexeme status, and that its combining with locative adverbs could be seen as an instance of compounding. If this is true, (*i*)*sa* should appear as both first and second constituent of a morphologically complex word, since the components which enter compounding do not obey any positional restrictions, as opposed to prefixes which always occupy the first position of prefixed words. In fact, *isa* can be found in the right-hand position of adverbial compounds, as for instance, in the formation of (13a). Moreover, it can be followed by the verbal derivational suffix *-az-* (13b) in order to form the verb *sazu* ‘to put order’, while a real prefix never forms a word by combining with a suffix:

(13) LAM

- |              |          |          |       |
|--------------|----------|----------|-------|
| a. ulóisa    | < úlu    | isa      |       |
| all straight | all      | straight |       |
| b. sázu      | < isa    | -az-     | -u    |
| put order    | straight | DER      | 1P.SG |

As opposed to prefixes, which are usually grammatical words, *isa* as a second member of compounds (like in the example of 13a), or as the base of a derivative item (13b), seems to be a content word, since it does not have the general intensifying function displayed by *sa* in (11). However, the ‘compounding’ hypothesis runs against the fact that *sa* is added only to locative adverbs, because categorial restrictions do not usually characterize compounds. In addition, *sa* does not combine with all locative adverbs, as shown by the ungrammatical example \**saksu* in (11.1).

Since there is no sufficient justification for the hypothesis that *sa* is a lexeme, or that it has been morphologized into a prefix, Ralli & Dimela (to appear) have proposed that *sa* is in the course of becoming a prefix, but has not acquired the full prefixal status yet. In other words, they have argued that although *sa* does not have all the properties of a real prefix, and there is no guarantee that it will result into being one, there are serious indications (e.g. form reduction and reduced meaning) of a morphologization in progress (see Joseph 2003 for details on morphologization).

It is easy to find examples of words that appear to be at various points of a potential diachronic development, that is items that are in the process of losing their word independence (see also Bauer 2005: 98). Since the categorial status of these items is not clear, and the processes in which they participate are not well delimited, I propose to appeal to the notion of *morphological creativity* in an effort to provide an explanation for the peculiar behavior of *sa*. According to Schultink (1961) and Lieber (1992), morphological creativity is the process under which there is a conscious coinage of a new word, as opposed to *morphological productivity*, which involves words that are unintentionally created (Bauer 1983, 2001, Plag 1999). Extending the notion of morphological creativity, Baeskow (2004: 78) assumes that it can also imply a superficial reanalysis of items, which may be done for specific purposes, but without bringing any real change to their categorial status. Adopting this broadened

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view of morphological creativity, I would like to suggest that it can account for the peculiar *sa* formations in LAM: as already pointed out, there are properties which characterize them as instances of prefixation, and properties that make them similar to compounds. In the examples of (11), *sa* seems to behave like a prefix in a specific context, i.e. when it is combined with the majority of locative adverbs, and may be reinterpreted as such. However, I suggest that this reinterpretation is only superficial, since the full form *ísa*, from which *sa* is derived for independent phonological reasons, still keeps its lexeme status as far as its lexical entry is concerned. In other words, I imply that *ísa* functions as a prefix in the particular context of its combination with the locative adverbs, but does not have undergone a radical category change from lexeme into prefix.<sup>21</sup>

Finally, elaborating on the phenomenon of the ambiguous status, i.e. prefixal or lexematic, of *sa*, and by taking into consideration data from other MG dialectal systems, I would like to suggest the importance of dialectal evidence into showing ongoing linguistic changes. We have already noticed that the directional adverb *ísjá* in SMG is not affected by any change with respect to its word status. The same applies to the dialectal systems of the island of Corfu (Corfiot) and Peloponnese. On the other hand, *ísjá* seems to have become a full prefix in the dialect spoken on the island of Crete. As noted by Dimela (2005), a morpheme corresponding to the *sa* element, *s(j)o-*, is found prefixed to several categories in Cretan, i.e. to verbs (14a), adjectives (14b), and adverbs (14c).<sup>22</sup>

(14) Cretan

- |                 |          |                     |
|-----------------|----------|---------------------|
| a. sojerno      | < so-    | jerno               |
| become very old | straight | become old          |
| b. soaspros     | < so-    | aspros              |
| very white      | straight | white               |
| c. sodreta      | < so-    | dreta <sup>23</sup> |
| very straight   | straight | straight            |

As seen in (14), and as opposed to the LAM *sa*, the Cretan *s(j)o-* is attested in a wider context, where it is extremely productive. As a proof of its productivity, we find *-s(j)o-* being used in the creation of neologisms, which cannot be detected in the most updated Cretan dictionaries (e.g. Idomeneas 2006, Ksanthinakis 2001), while the formation of new words (other than the ones which are listed in (11)) with the use of *sa* is not generally possible in LAM. An additional argument in favor of the Cretan *s(j)o-* being a prefix comes from the fact that, on synchronic grounds, native speakers make no link between its initial lexical meaning and the actual intensifying function.<sup>24</sup> On the contrary, they often mix up *s(j)o* originating from ‘straight’, with *so-* which

<sup>21</sup> As suggested by an anonymous reviewer, elements of an ambiguous morphological status, like the LAM *sa*, can be well represented within a Construction Morphology framework, along the lines of Booij (2005), who proposes that a number of schemas express generalizations about sets of existing and novel words, with varying degrees of abstraction. In fact, in such a framework, we could assume that *sa* is pre-specified, and independently stored in the lexicon with its own properties and special meaning. As such, it participates in a schema representing a general compounding pattern.

<sup>22</sup> *Sjo-* appears in Western Crete and *so* in Eastern Crete. See Charalambakis (2001), Pangalos (1955) and Ksanthinakis (2001), for a detailed discussion about the origin and the formation of *s(j)o-*.

<sup>23</sup> *Dreta* originates from the Italian word *diritto* ‘straight’.

<sup>24</sup> Only the final *-o*, which reminds of the actual compound marker in Greek (footnote 3) is an indication that *s(j)o-*, before being morphologized, was once used as a lexeme participating in compound formation.

comes from the preposition *sin*. It is important to stress that such a confusion in form and meaning does not occur in LAM, where *sa*, beside the phonological transparency, still keeps a certain degree of semantic transparency with the original *ísa*.

In conclusion, variation in both the status and the form of *ísjá*, depending on the dialect, is a good illustration of an ongoing linguistic change within the same language, in our case, MG. It could further motivate the existence of a dialectal continuum with respect to items, which may be characterized as lexemes or prefixes, depending on the case. One of the poles of this continuum contains dialects such as those of Corfu (Corfiot) and Peloponnese, and also SMG, where a full adverbial word *ísjá* is present without being reduced into *sa*. We find LAM in the middle of the continuum, since in these dialectal varieties, there is no proof that *sa* has become a full prefix yet. Finally, the other pole contains dialects like Cretan, with a fully morphologized *sa* into a prefix.

## 5. Dialects and morphological typology

In this section, I examine a change affecting the morphological type of a dialect, and show how dialectal information can be used to determine the extent of influence of one particular linguistic system on another in language-contact situations, especially in those involving isolated speech communities (see Trudgill 2004 for the linguistic behaviour of these communities).

For this purpose, I investigate the nominal inflection of one of the Greek peripheral dialects, namely the Asia-Minor dialect of Cappadocian, which underwent a Turkish influence following the Seljuk invasion in the 11<sup>th</sup> century, and the subsequent conquest of Asia Minor by the Ottoman Turks in the 14<sup>th</sup> century.<sup>25</sup> Cappadocian displays traces of agglutination in nominal inflection, as already mentioned by Dawkins (1916), Janse (2004, forthcoming), although its basic morphological structure belongs to the fusional type, like that of SMG. This is unique in the history of the language, since other dialects have been heavily affected by Turkish over time (e.g. certain Northern Greek Dialects, such as Lesbian), but Cappadocian is the only case where there are hints of an agglutination pattern.

As already known, Greek nominal inflection is characterized by the features of gender, number, case, and inflection class, while inflectional endings are portmanteau morphemes.<sup>26</sup> For most nouns, gender acts as an inflectional classifier, and masculine, feminine and neuter nouns inflect according to more or less different paradigms. For an illustration, see the SMG nominal paradigms of (15) below.<sup>27</sup>

Under the influence of Turkish, where there are no gender distinctions, many Cappadocian nouns, especially in the southern towns of Ulaghats, Gurzono, Fertek, Aravan, and Semendere, have lost the formal paradigmatic distinctions corresponding to the masculine, feminine and neuter values, and have evenly adopted the old inflection of neuter nouns.<sup>28</sup> In fact, as shown in Dawkins (1916: 87-116), and Janse

<sup>25</sup> For information about Cappadocian, see footnote 6. According to scholars who have described Cappadocian (e.g. Dawkins 1916, Janse forthcoming), this dialect shares a lot of similarities with an old form of Greek, namely Byzantine Greek.

<sup>26</sup> See Ralli (1999, 2000 and 2002) for more information about gender, inflection class, and their interaction.

<sup>27</sup> Nouns in *-os* are usually masculine (e.g. *ánthropos* ‘man’), but there is also a number of feminine occurrences (e.g. *proódos* ‘progress’), most of them of learned origin or analogically created.

<sup>28</sup> According to Janse (2004: 9) other distinctions in terms of animacy and definiteness are also neutralized in Southeast and Southwest Cappadocian, where all nouns have become almost formally identical.

(2004: 6-12), it is impossible to determine the grammatical gender of nouns from the form of their inflectional paradigm, with probably one exception: those which end in *-s* in the nominative singular, a form which still reminds of the ancient masculine nouns for this particular case.

As seen in (16), the Cappadocian nominal inflection appears to be simplified compared to that of SMG (15), in that there are less case forms (e.g. no vocative case),<sup>29</sup> and a smaller variety of inflectional endings. For instance, the South Cappadocian endings of (16), corresponding to those of the SMG nouns in nominative and accusative plural, appear to be levelled into the single form *-ja*.

(15) SMG	(16) Cappadocian <sup>30</sup>		
a. mat.NEU 'eye'			
Singular	Plural	Singular	Plural
Nom <i>mati</i>	<i>matja</i>	<i>mat</i> <sup>31</sup>	<i>matja</i>
Acc <i>mati</i>	<i>matja</i>	<i>mat</i>	<i>matja</i>
Gen <i>matju</i>	<i>matjon</i>	<i>matju</i>	<i>matju</i>
Voc <i>mati</i>	<i>matja</i>		
b. fito.NEU 'plant'			
Singular	Plural	Singular	Plural
Nom <i>fito</i>	<i>fita</i>	<i>fito</i>	<i>fita/fitja/fitoja</i>
Acc <i>fito</i>	<i>fita</i>	<i>fito</i>	<i>fita/fitja/fitoja</i>
Gen <i>fitu</i>	<i>fiton</i>	<i>fitu/fitju/fitoju</i>	<i>fitu/fitju/fitoju</i>
Voc <i>fito</i>	<i>fita</i>		
c. jineka.FEM 'woman'			
Singular	Plural	Singular	Plural (Dawkins 1916: 114)
Nom <i>jineka</i>	<i>jinekes</i>	<i>neka</i>	<i>nekaja / nekes</i>
Acc <i>jineka</i>	<i>jinekes</i>	<i>neka</i>	<i>nekaja / nekes</i>
Gen <i>jinekas</i>	<i>jinekon</i>	<i>nekaju</i>	<i>nekaju / nek-ezju</i>
Voc <i>jinekas</i>	<i>jinekes</i>		
d. anθropos.MASC 'man'			
Singular	Plural	Singular	Plural (Sasse 1992: 65)
Nom <i>anθropos</i>	<i>anθropi</i>	<i>atropos</i>	<i>atropozja</i>
Acc <i>anθropo</i>	<i>anθropus</i>	<i>atropos</i>	<i>atropozja</i>

<sup>29</sup> It should be noticed that genitive forms in the plural number have also become rare.

<sup>30</sup> The examples of (16) are from Ulaghats and Fertek (Mark Janse, personal communication), and their inflectional endings are given in bold characters.

<sup>31</sup> Unlike the Northern Greek dialects, which undergo unstressed /i/ deletion in all positions, the Cappadocian unstressed /i/ occurs at the end of the words. See also footnotes 18-20.

Gen	anθropu	anθropo <b>n</b>	atropoz <b>ju</b>	atropoz <b>jaju</b> <sup>32</sup>
Voc	anθrope	anθropi		

However, the most striking innovation, as far as the Cappadocian nominal inflection is concerned, is probably an indication for the emergence of an agglutinative pattern, which is also due to Turkish influence. This pattern is particularly evident in the southern varieties of Cappadocian, where the plural number and the genitive case are not fused together under the usual portmanteau morpheme *-on*, as in SMG and the rest of the Greek dialects (15), but they are realized by distinct markers, which, in some cases, are added to the base, one after the other (see, for instance, *nek-ez.PL-ju.GEN* ‘women’ (16c) and *atropoz-ja.PL-ju.GEN* ‘men’ (16d)).

To be more specific, consider again the inflection of the nouns ‘eye’, ‘plant’, ‘woman’, and ‘man’ in both SMG (15) and Cappadocian (16). In (16), we observe that there is a spread of a plural nominative/accusative marker *-ja* and that of a singular/plural genitive one *-ju*, in all nouns and inflectional paradigms. As already said, this spread was facilitated by the loss of grammatical gender distinctions. Following Janse (2004), I assume that *-ja* and *-ju* originate from the ancient paradigm of neuter nouns in *-i*, like that of *mat* (underlying *mati* before the unstressed /i/ deletion).<sup>33</sup> I suggest that they involve the old stem-final vowel /i/ and the inflectional endings *-a* and *-u* (see 15a), which, under a reanalysis procedure, have become *-ja* and *-ju*, respectively. A plausible explanation why the paradigm of nouns in *-i* has prevailed over the others can be found in Christophidou (2003), who brings evidence from the domain of language acquisition, according to which this paradigm is the most productive in MG and its dialects. In *atropozjaju* ‘men.GEN.PL’ (16d), *-ja* and *-ju* are added to the base *atropos*, one after the other, suggesting that *-ju* has lost its original number value, since it appears to be preceded by a plural marker (*-ja*), and that *-ja* has been deprived from its original nominative/accusative syncretic case values, because it is followed by the genitive marker (*-ju*). This inflectional pattern is reminiscent of the agglutinative Turkish nominal inflection, as shown by a simple comparison of the paradigms of both the Cappadocian and the Turkish inflected forms for ‘man’:

(17)	a. Turkish	b. Cappadocian	
		Singular	
	Nom/Acc	adam	atropos
	Gen	adam <b>ın</b>	atropoz <b>ju</b>
		Plural	
	Nom/Acc	adam <b>lar</b>	atropoz <b>ja</b>
	Gen	adam <b>ların</b>	atropoz <b>jaju</b>

The same agglutination pattern also appears in (16c), where the form *nekezju* ‘women’ contains one after the other, the markers of plural (*-es*) and genitive (*-ju*). It should be noticed though that *nekezju* seems to be closer to the original Greek inflection than *atropozajaju*, since it is built on a stem *nek-* (the Greek stem is *jinek-* (15c)), and the plural morpheme *-es*, which is also the original ending of Greek feminine nouns. However, while *-es* in SMG combines the features of case and

<sup>32</sup> Cf. Janse (2004) for more types in *-jaju*.

<sup>33</sup> As in the Northern Greek Dialects, the Cappadocian unstressed /i/ surfaces in stressed position.

number, the Cappadocian *-es* marks only the number (plural) because it is followed by an independent genitive marker *-ju*.

Crucially, *-ja* and *-ju* are still used as fusional morphemes for some Cappadocian nouns, as shown by the inflection of *mat-* (16a). However, as opposed to SMG, whose inflectional endings are usually added to the stem of the base (see 15), in most Cappadocian nouns *-ja* and *-ju* are (or can be) added to a full word form, which is found in the nominative singular, and is taken to be a default base form. This phenomenon is also reminiscent of the Turkish nominal inflectional paradigms, where the inflected forms are shaped on the basis of a nominative singular word form. For instance, the Turkish word for ‘plants’ is *bitkiler*. It is created by adding the plural ending *-ler* to the word *bitki* ‘plant’, which is the form of the nominative singular. On the other hand, the corresponding Greek word is *fitá* (15b), which combines the bound stem form *fit-* with the portemanteau ending *-a*.

Finally, in spite of the fact that (16c) and (16d) indicate that Cappadocian has undergone a Turkish influence, we cannot conclude that the entire Cappadocian nominal system has been turned into agglutinative, since there are nouns, which do not show any agglutination (e.g. (16a)). What (16c,d) illustrates is a hint of a possible ongoing change, which is interesting from the typological point of view. This ongoing change is well depicted by the inflection of (16b), where the innovative forms coexist with the old ones. In addition, as suggested by an anonymous reviewer, the fact that the Cappadocian endings are remoulded from a Greek fusional pattern into a Turkish-like agglutinative one shows that the structure of paradigms, which are different for fusional and agglutinative languages, constitutes a real abstract property of languages, and are not an epiphenomenon.

It is also important to add that a change of the Cappadocian nominal typology from fusion to agglutination will probably remain uncompleted, since Cappadocian speakers were forced to abandon Turkey and move to Greece, following the exchange of populations between Greece and Turkey in 1923. Today, most descendants of Cappadocian refugees live in mainland Greece, do not know Turkish, while they speak SMG on a daily basis. Very few of them (about 2000) use Cappadocian in family situations, and Cappadocian is on the way to extinction.

## 6. Conclusions

In this paper, I have discussed the reciprocal interaction between dialectology and morphology. I have argued that the study of dialects may provide a repertoire of data and phenomena that support the use of certain theoretical concepts in morphology, and morphological theory may offer interesting analyses for these data. Moreover, I have demonstrated that dialects can throw light on change and language variation, since a number of morphological items and various patterns, which may be found in certain dialects, are not part of the relevant standard varieties.

First, with the use of dialectal evidence I have stressed the need for the use of constraints in morphology, and the important role of non-phonologically conditioned stem allomorphy in the organization of inflectional paradigms. Second, I have dealt with the demarcation of prefixation and compounding, a hot issue in recent literature, and the phenomenon of morphologization. Through a cross-dialectal examination of an item, which shares properties with both prefixes and lexemes in one dialect (LAM), while in other dialects it behaves either as a prefix (Cretan) or as an autonomous word (Corfiot), I have illustrated an ongoing linguistic change. Finally, I have touched language typology by examining the paradigmatic structure of a

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peripheral MG dialect (Cappadocian), which, as opposed to fusional Greek, shows traces of agglutination. Beside the fact that Cappadocian displays the only case of a change from fusion to agglutination in MG inflection, it proves that paradigms are not an epiphenomenon, but basic units of morphological organization.

Generally speaking, there are many fascinating things that can be detected in the dialects of languages, which are unknown in the relevant standard varieties, and thus overlooked in linguistic studies. The focus of the present study was on Modern Greek dialects, but there is no doubt that morphological studies could be improved if the scope of investigation **Acknowledgments:** I wish to thank Mark Janse for his help on the Cappadocian data, Io Manolessou for her assistance with Medieval Greek, and the audience of the 6<sup>th</sup> *Mediterranean Morphology Meeting* (Ithaca, Greece: Oct. 2007) for their was broadened to cover dialectal accounts of other languages as well. Thus, there is a rich territory for future work and collaboration between morphologists and dialectologists.

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