Edinburgh University Press
22 George Square
Edinburgh EH8 9LF
www.eupjournals.com

Dear Author,

Here is a proof of your article to appear in the forthcoming issue of *Word Structure*.

Please check the proof carefully and send any corrections (quoting page and line references) to Prof. Heinz Giegerich, the liaison editor for this issue, at the following email address no later than 5 days after receipt.

heinz.giegerich@ed.ac.uk

Please remember that you are responsible for correcting your proofs. The proof is sent to you for correction of typographical errors only. Revision of the substance of the text is not permitted, unless discussed with Prof. Giegerich. Please answer any queries raised by the typesetter.

Thank you for your co-operation.

Journals Production Department
Edinburgh University Press

EDINBURGH UNIVERSITY PRESS

JOURNAL LIBRARY RECOMMENDATION FORM

Please forward this form to your librarian, library liaison, or serials review committee

Dear Librarian/Library Liaison,
I recommend that the library subscribes to the following journal:

Title _____ ISSN _____

My reasons for recommending this journal are:

☐ USAGE I will regularly use this journal and recommend articles to colleagues and students.
☐ ENHANCEMENT This journal will enhance the Library's scholarly collection and benefit the research/teaching needs of our institution.
☐ CONNECTION I am a member of the editorial board and/or a regular contributing author.

Additional comments: _____

Please include this journal in your next serials review meeting with my recommendation to gain access to this journal for our institution. Thank you.

Signature _____ Date _____ Tel _____

Name _____ Position _____

Dept _____ Email _____

INFORMATION FOR LIBRARIES

Edinburgh University Press provides electronic access to all journals via EUP Journals Online. Electronic access includes the current volume and all back issue content. If an online subscription is cancelled at a future date, all volumes from the years subscribed to will be available in perpetuity.

The following options are available to institutions:

- *Print + Online Subscription*: electronic access and a print copy of each issue of the volume.
- *Print Subscription*: print copies only at a 20% discount off the combined print + online rate, and does not include electronic access.
- *Online Subscription*: electronic access at a 28% discount off the combined print + online rate, and does not include print copies.

FEATURES OF EUP JOURNALS ONLINE

Access for Subscribers
Individual subscribers can access all material they have subscribed to from any computer with Internet access, simply by logging into the site. Institutional subscribers have access controlled by IP range and therefore have automatic access without logging in. Proxy IP authentication is used when users do not connect directly from the IP address of individual computers, but rather use a proxy server for security.

Pay-Per-View
The site enables non-subscribers to pay per view, where an article can be accessed for a limited period (48 hours).

Reference Linking and PDF Plus
Individual articles are available as PDF and PDF Plus files. PDF Plus is an enhanced PDF file format which links citations to external abstracting and indexing databases such as CrossRef, so that readers can quickly retrieve abstracts for the articles referenced. Clicking a linked reference in a PDF Plus file will take the reader directly to the abstract for that article on its home publisher website, or to an electronic aggregator website.

Trial Access
Please contact journals@eup.ed.ac.uk to request a free 30-day trial.

Advanced Search Functions
Abstracts and contents are freely viewable to all users of the website. The search function of the site allows easy access to specific content, and advanced search criteria include Title, Author, Full Text, Keywords, ISSN, Article DOI, Publication Dates and Subject Area. Searches can also be saved for future use.

Additional Features

- Article citation tracking
- Bibliographic Information Downloads
- Table of Contents Alerting Service
- Supplementary Material
- CrossRef Cited-by Linking (formerly Forward Linking)
- Featured Articles
- News and Announcements

Free Sample Issues
Free Sample Issues of EUP journals are available on EUP Journals Online at **www.eupjournals.com**. Simply visit a journal's homepage and click the "All Issues" tab to be directed to the free content.

Contact Information
Edinburgh University Press, 22 George Square, Edinburgh EH8 9LF, UK. Tel. +44 (0) 131 650 6207 Fax. +44 (0) 131 662 0053
Email: journals@eup.ed.ac.uk

Edinburgh University Press

*Browse EUP Journals Online at **www.eupjournals.com***

Modern Greek V V dvandva compounds: A linguistic innovation in the history of the Indo-European languages[1]

Angela Ralli

Abstract

This paper deals with [V V] dvandva compounds, which are frequently used in East and Southeast Asian languages but also in Greek and its dialects: Greek is in this respect uncommon among Indo-European languages. It examines the appearance of this type of compounding in Greek by tracing its development in the late Medieval period, and detects a high rate of productivity in most Modern Greek dialects. It argues that the emergence of the [V V] dvandva pattern is not due to areal pressure or to a language-contact situation, but it is induced by a language internal change. It associates this change with the rise of productivity of compounding in general, and the expansion of verbal compounds in particular. It also suggests that the change contributes to making the compound-formation patterns of the language more uniform and systematic.

Claims and proposals are illustrated with data from Standard Modern Greek and its dialects. It is shown that dialectal evidence is crucial for the study of the rise and productivity of [V V] dvandva compounds, since changes are not usually portrayed in the standard language.

1 Aspects of compounding: the case of dvandva formations

Compounding is generally considered to be a word-formation process which builds words out of words or out of smaller parts (e.g. stems), depending on the language one deals with (Ralli 1992, 2007a, 2009). For instance, English bases its native compounds on word combinations, while Modern Greek (hereafter Greek) has [stem stem] or [stem word] structures, as shown by Drachman & Malikouti-Drachman (1994), Nespor & Ralli (1996, 2007a), Revithiadou 1997):

(1) (a) English: word word compounds
table cloth
car wash

(b) Greek: stem stem compounds

nixtolúludo :	[nixt-o-lulud]-o	<	níxt(a)	lulúd(i)[2]
night flower	[stem-CM-stem]-INFL		night	flower

Greek: stem word compounds

elafokinigós :	[elaf-o-kinigós]	<	eláf(i)	kinigós
deer hunter	[stem-CM-Word[3]]		deer	hunter

(where CM=compound marker/linking element (see below) and INFL=nominative singular)

A basic criterion for dividing Greek compounds into two classes, [stem stem] and [stem word], is the form of the inflectional ending. As illustrated by the examples in (1b), [stem stem] compounds have the inflectional ending added to the compound structure as a whole, while in [stem word] structures the ending is that of the second constituent. Another criterion is the position of stress. The same examples show that [stem stem] formations undergo a compound-specific antepenultimate stress rule, while [stem word] ones preserve the stress of the second word member.

With respect to the relation between their internal structural constituents (words or stems), verbal compounds can be generally classified into two categories, subordinative and copulative[4] or coordinative (called also co-compounds by Bhatia (1993) and Wälchli (2005), or dvandva by Bauer (2008), following the Sanskrit tradition).

In this paper, I deal with the second category, that is with compounds whose members stand in a coordinative relationship. More particularly, I focus on a subclass of dvandva compounds, those containing verbs, which display the following properties:

- They do not represent a single process, but combine verbs that are in a natural coordination in Wälchli's (2005: 5) sense, that is verbs that are closely related in meaning.
- There is no dependency of one compounding element upon the other (Renner 2008: 608), and in the uncompounded condition, their constituents would be connected by the conjunction 'and' (Whitney 1889).[5]

The analysis of the class of dvandva compounds is primarily due to the role this type of compounding has played in Sanskrit, where the constituents which undergo coordination are usually nouns or adjectives. Nominal dvandva compounds are not unknown in other Indo-European languages. For instance, they are particularly frequent in Tocharian, non-standard Russian, in most Indian languages, and to a lesser extent in Ancient Greek (Debrunner 1917, Wälchli 2005). However, with some exceptions (e.g. Modern Greek, certain Russian dialects,[6] and probably English according to a number of works (e.g. Renner 2008)), [V V] dvandva compounds are not usually attested in the Indo-European languages. Interestingly, they constitute formations of a moderate productivity in everyday Standard Modern Greek, but are productively

built in Modern Greek dialects. Consider the following examples, which are taken from Standard Modern Greek:

(2) (a) anigoklino < anig(o) klino
open - close open close

(b) anavozvino < anav(o) zvino
switch on – switch off switch on switch off
'switch on and off (the light)'

(c) benovjeno < ben(o) vjeno
enter - go out enter go out

(d) trogopino < trog(o) pino
eat - drink eat drink

(e) anevokateveno < anev(eno) kateveno
go up – go down go up go down
'go up and down'

Note that there are a number of examples in English, such as *stir-fry, spell-check, freeze-dry, sleep-walk,* etc., which have been considered as verbal dvandva compounds (Trask 1993, Bussmann 2002, Renner 2008). However, the issues of their productivity and coordinate structure remain controversial, and most studies of the twentieth century have ignored them (see Wald & Besserman 2002). For instance, although Renner (2008: 611) accepts them as coordinate compounds, he recognizes the difficulties which arise with respect to their status, in that some examples (e.g. *cook-chill, push-pull*) are institutionalized as deadjectival noun compounds, and in certain cases, the verbal category of their first member is not always obvious. As stated by Kiparsky (2009), most of these compounds do not display a coordinative association between the two verbs, but rather a subordination relationship. Bauer (2008) and Kiparsky (2009) exclude them from the list of verbal dvandva compounds, and in several morphological analyses, many examples (e.g. *spell-check)* are not analyzed as primary compound formations, but as the products of conversion or back formation, created on the basis of nominal compounds (see, among others, Marchand 1969). In the same way, the few instances that are attested in German (e.g. *kennenlernen* 'get to know', *spazierengehen* 'go for a walk') are characterized by Becker (1992: 20) as 'not proper' formations, in the sense that they do not play a central role in German compounding. Moreover, for Oniga (1992), the few Latin [V V] occurrences with *facere* 'to do' at the position of V2 (e.g. *calefacere* 'make hot') are all subordinative, where V1 is subordinated to V2.

Note that there is also a small number of Greek [V V] compounds, which could be considered as belonging to the subordinative type (cf. 3), although they are formally identical to the dvandva ones. In these examples, V1 and V2 do not contribute to the semantics of the compound equally, but the combination of V1 and V2 may express a cause-effect relationship (3a), or V1 may bring a manner (3b) or metaphorical (3c) modification to V2.[7]

(3) (a) anapsokokinizo < anaps(a)[8] kokinizo
become red, blush light.PAST, set fire.PAST become red

(b)	xaskojelo	< xask(o)	jelo
	laugh with an open mouth	gape	laugh
(c)	xoropido	< xor(evo)	pido
	jump like dancing, 'bob'	dance	jump

Unlike other languages with [V V] compounds, e.g. Japanese, where this [V V] type is very productive (see, among others, Kageyama 1982, 2009, Fukushima 2005), Chinese (Li 1990, 1998), Greek [V V] subordinative compounds are not as productive as the coordinative ones. In this paper, they will not be at the focus of my analysis

[V V] dvandva compounds frequently occur in East and Southeast Asian languages like Chinese, Japanese, Korean and Vietnamese.[9]

(4) (a) Japanese (Kageyama 2009)
naki-sakebu 'cry-scream'
tobi-haneru 'jump-spring'
hasiri-deru 'run-go.out' = 'run out'

(b) Chinese (Packard 2000)
bian-bie 'distinguish-differentiate'
hū-xī 'inhale-exhale' = 'breathe'

(c) Korean (Sohn 1999)
olu-naylita 'ascend-descend'
po-salpita 'see-look.about' = 'look after'

(d) Vietnamese (Nguyen 1997)
ăn-uóng 'eat-drink'
mua-bán 'buy-sell'
kén-chon 'pick-choose'

According to Wälchli (2005), the frequency of dvandva compounds diminishes as we move westward, and there is a huge difference between the highly co-compounding languages of East and Southeast Asia and the weakly co-compounding languages of Europe. Thus, the obvious question that could be raised is whether there is an areal distribution with respect to [V V] formations. The appearance of a considerable number of examples in Greek requires further research on this matter.

Interestingly, Greek [V V] dvandva compounds constitute an innovation in the language, since they did not exist in Ancient Greek: they were absent from both Mycenaean (around 14th–13th c. BC) and Classical Greek (5th–4th c. BC)), although, as already mentioned, [N N] and [A A] formations were not unknown. As stated by Manolessou & Tsolakidis (2007) and Nicholas & Joseph (2009), two technical terms, *afksomio* 'increase-decrease' (< *afks(ano)* 'to increase' *mio* 'to decrease') and *prosthafero* 'add-subtract' (< *pros(ti)th(emi)* 'to add' + *afero* 'to subtract'), are attested in a mathematical treatise of the Hellenistic period (2nd c. AD, Claudius Ptolemy, *Almagest* 1,1,500 and 1,1 528). Nevertheless, as Manolessou & Tsolakidis (2007) clearly show, it is only in the late Medieval period (after the 13th c. AD) that the particular construction becomes productive, and is used with a colloquial character.[10]

Given the fact that a word-formation process can be defined as productive if new words can be coined by it (Bauer 2001: 211), there are reasons to claim that [V V] dvandva compounding displays a moderate productivity in Standard Modern Greek, compared to [N N] and [A A] compounding, which is very productive.[11] It is of crucial importance, though, to stress the remarkably high degree of productivity in Modern Greek dialects, where these compounds really abound, and where the [V V] pattern gives rise to novel forms within the domain of verbs. The examples in (5) are indicative of these dialectal formations.[12] They are taken from Andriotis (1960), as well as from a corpus of dialectal compounds, which has been built at the *Laboratory of Modern Greek Dialects* of the University of Patras. However, [V V] dvandva compounding cannot be considered to constitute a dialectal feature, since there are plenty of such compounds in the standard language as well (see examples in (2)).

(5) (a) alonotherizo < alon(izo) therizo (Crete)
thresh - reap thresh reap
(b) jelokleo < jel(o) kleo (Pontus)
laugh – cry laugh Cry
(c) kuklustsipazumi < kukl(onu) stsipazumi (Lesbos)
wrap up - cover wrap up cover
(d) majirukinonu < majir(evu) kinonu (Imbros)
cook - pour cook pour
(e) kseromarenome < kser(enome) marenome (Skiros)
dry - wither dry wither
(f) pandrovlogo < pandr(evo) vlogo (Chios)
marry and bless marry bless
(g) skalopotizo < skal(izo) potizo (Cyprus)
grub - water grub water
(h) psenomajirevo < psen(o) majirevo (Mani)
roast - cook roast cook
(i) zimoklurizu < zim(onu) klurizu (Aitolia)
knead - make cookies knead make cookies

It is important to stress the vital role of dialectal evidence for tracing linguistic innovations. Dialects may make visible a change, which can be masked by the standard language for various reasons. For instance, the standard language may be too conservative to reveal an innovative construction. This is the case for Standard Modern Greek, which has been developed in the last two centuries, following the constitution of the modern Greek state. Standard Modern Greek has adopted several words and word structures from an archaic-like language form, the so-called 'katharevousa', which, until recently (1976), was the official form of writing. (See Horrocks (1997) for details about the history of Greek.) On the other hand, the Modern Greek dialects reflect the natural evolution of the language by being direct descendants of Hellenistic koine, and constitute a real and rich source of information concerning language change. Thus, the high productivity of dialectal [V V] dvandva compounds is particularly significant

because it reveals the productivity of a structure, which is not properly portrayed in Standard Modern Greek.

2 Basic properties of Greek [V V] dvandva compounds

[V V] dvandva formations display most of the typical properties of Greek compounds, phonological and structural, as stated by Ralli (1992, 2007a, 2009, in preparation):[13]

First, they bear only one stress, that is they are phonological words, independently of the stress that their constituent verbs display, when used as autonomous words:

(6) (a) dvandva [V V]

pijenoérxome	< pijén(o)	érxome	
go – come	go	come	
'come and go'			

(b) Sub-compound [N V]

nixtoperpató	< níxt(a)	perpató
night walk	night	walk
'walk at night'		

Second, as is the case for compounding in general, their word-internal structure is not subject to any syntactic rules. For instance, the constituent parts do not have an independent reference outside the compound itself.

Third, there is a marker *-o-* between the two basic constituents (see Ralli 2008a).

(7) (a) dvandva [V V]

anev-o-katevaz(o)	< anev(azo)	katevazo
raise – lower	raise	lower

(b) Sub-compound [N V]

xart-o-pezo	< xart(ja)	pezo
card(s) play	cards	play
'play cards'		

Fourth, they can be nominalized, like simple verbs and other verbal compounds. The nominalizing suffix is not added to V2, but to the compound construction as a whole:

(8) (a) [V V] Dvandva compounds

V1-stem	*V2-stem*	*V1-Nomin/ed*	*V2-Nomin/ed*	*Compound*
anav	zvin	ana(v)-ma	zvi(n)-simo	anavozvino
light	extinguish	lighting	extinguishing	light-extinguish
'switch on'	'switch off'			'switch on and off (the light)'

Nominalization
anavozvi-ma
lighting-extinguishing
*anavozvisimo

(b) [N V] sub-compounds

N-stem	*V2-stem*	*V2-Nomin/ed*	*Compound*	*Nominalization*
xart	pez	pek-simo	xartopezo	xartopeks-ia
card	play	playing	play cards	card playing

The fact that [V V] compounds may take a different nominalizing suffix[14] from the suffix which is usually taken by V2 (see (8a) above), and that V1 cannot undergo an independent nominalization, demonstrates the high degree of structural cohesion of [V V] compounds in Greek. It also provides a serious argument for their account in morphological terms.

Fifth, their inflection is situated at the right-hand edge: as already noted, the first member of a Greek compound is generally a stem, that is the part of the word without its inflectional ending, while the second member can be either a stem ([stem stem] compounds) or a word ([stem word] compounds). Crucially, [V V] dvandva formations are assumed to display a [stem word] structure, like the other Greek verbal compounds (i.e. [N V] and [Adv V] ones), since they preserve the inflection and the stress of the second constituent (see also section 1).

Sixth, they are subject to a compound-specific constraint, the so-called 'Bare-Stem Constraint' (see Ralli & Karasimos to appear), which forbids any derivational suffixes within compounds, and requires the first constituent of a compound to be a bare stem. Consider the example *nixtovradiazome* lit. 'be overtaken by night – be overtaken by evening', that is 'spend all time' {I don't understand this} {perhaps 'use up all one's time'?}. The full word form for 'be overtaken by night' is *nixtonome*. It derives from the noun *nixt(a)* 'night', the derivational verbal suffix *-on-* and the inflectional suffix *-ome* (first person singular). However, only the bare stem (*nixt-*) surfaces in the compound formation, that is the part of the word without the derivational suffix *-on-*. Interestingly, in certain cases, the form of the verbal bare stem coincides with that of the nominal base (compare *nixt-a* 'night' and *nixt-on-ome* 'be overtaken by night'). In these cases, the categorial status of the stem, i.e. verbal or nominal, follows from the meaning of the compound, which clearly indicates a structure based on a [V V] juxtaposition (see also Andriotis 1960 on the same subject).

Seventh, in most cases, there are two basic constituents. There are also examples with more than two constituents, which prove that [V V] dvandva compounds are like other typical Greek compounds, the structure of which may display more than one stem.[15] As an illustration, compare the dialectal examples (9a,b), taken from Andriotis (1960: 52–61), with those of Standard Modern Greek (9c,d):

(9) (a) spernotrigotherizo < spern(o) trig(o) therizo (Skiros)
sow.gather.reap sow gather reap

(b) pinorigodipsonistazo < pin(o) rig(o) dips(o) nistazo (Constantinople)
drink.shiver.be.thirsty.feel.sleepy drink shiver be.thirsty feel.sleepy

(c) agrotodanioxorijisis < agrot(is) dani(o) xorijisis
farmer.loan.grants farmer loan grants

(d) megalokapnemboros < megal(os) kapn(os) emboros
big tobacco merchant big tobacco merchant

[V V] dvandva compounds have also their own properties, which make them distinct from other verbal compounds. These properties relate mainly to headedness, that is to the existence of a head of the construction, the position of the head, and the order of the constituent parts. As opposed to [N V] formations (e.g. *afisokolo* 'stick posters' < *afis(a)* 'poster' + *kolo* 'stick') and [Adv V] ones (e.g. *kalotroo* 'eat well' < *kal(a)* 'well' + *troo* 'eat'), which are generally right-headed, it is not clear whether the second constituent of [V V] dvandva compounds assumes the role of the head: the two basic members are of the same grammatical category, display parallel argument structures, and the meaning of the construction is a conjunction of the meanings of its subparts. With respect to the assignment of meaning and category, these compounds resemble other Greek dvandva constructions, i.e. [N N] (e.g. *meronixto* 'day and night' < *mer(a)* 'day' + *nixt(a)* 'night'), and [A A] ones (e.g. *pikroglikos* 'bitter sweet' < *pikr(os)* 'bitter' + *glikos* 'sweet').[16] Since neither of the components dominates the other, we could adopt Kageyama's (2009) suggestion about Japanese similar constructions that they are double-headed. However, the form of their inflectional paradigm, that is their inflection class (IC), implies that the second verb has a more prominent role, at least formally. Generally, when two verbs of different inflection classes combine in order to form a [V V] dvandva compound, the construction adopts the inflection class of V2.[17] As an illustration, consider the examples *vrodoastrafto* 'thunder - lightning', from Standard Modern Greek, and *vromomirizo* 'stink - smell', from the Asia-Minor dialect of Krini, in (10). In both cases, the inflection of the compound follows that of V2:

(10)

	compound IC	V1 IC	V2 IC
(a)	vrodoastrafto.IC1	vrod(o).IC2	astrafto.IC1
	thunder - lightning	thunder	lightning
(b)	vromomirizo.IC1	vrom(o).IC2	mirizo.IC1
	stink - smell	stink	smell

The question though is whether headedness can be identified only on the basis of the inflection-class criterion because V1 and V2 have an equal status with respect to the rest of the features. Since inflection class is a formal feature, a possible solution would be to make a distinction between semantic and formal headedness, in accordance with a proposal put forward by Guevara & Scalise (2008), and thus, to accept right-headedness for [V V] dvandva compounds on formal grounds.

Another criterion for considering V2 as having a more prominent role over V1 could be the place of the inflectional ending, which, according to Zwicky (1985), is added to heads.[18] Consider the first person singular of the present and the past tenses of a compound like *benovjeno* 'go in and out':

(11)

		Compound	V1	V2
(a)	Pres tense	ben-o-vjeno	ben-	vjeno
		go.in-CM-go.out.IMPF.PRES.1SG	go.in	go.out.IMPF.PRES.1SG
		'I go in and out'		

(b)	Past tense	ben-o-vjika	ben- vjika
		go.in-CM-go.out.PERF.PAST.1SG	go.in go.out.PERF.PAST.1SG
		'I went in and out'	

Benovjeno is the form of the present tense (imperfective aspect, first person singular), which becomes *benovjika* 'I went in and out' in the perfective aspect of the past tense. Crucially, V1 *ben-* remains invariable because it is a stem, and as such it is not subject to inflection, while V2 appears as *vjeno* or *vjika,* depending on the case, since it is inflected, and its inflection is inherited by the compound as a whole.[19] However, even this criterion is a weak one, since all Greek verbal compounds are generally of a [stem word] structure, where inflection is compulsory on the second constituent simply because it has a word status, and not because it is the head of the construction.

An intriguing question regarding [V V] formations is the order of the compound components, which is generally fixed:[20]

(12)	(a)	anigoklino	vs.	*klinanigo
		open - close		close - open
	(b)	trogopino		*pinotrogo
		eat - drink		drink - eat

Ralli (2007a) has suggested that it may be the case that the item which appears first is the one whose meaning is judged by native speakers to prevail over the other. According to this hypothesis *trogo* 'eat' (12b) may be seen by Greek speakers as having a predominant role over drinking (*pino*). Similar considerations exist for other languages with [V V] compounds. For instance, with respect to the order of verbal constituents in Chinese [V V] compounds, Li (1993) has claimed that it is established on the basis of temporal iconicity, reflecting precedence of different events. The same suggestion regarding temporal iconicity is also made by Andriotis (1960) and Kiparsky (2009) to account for the fact that a Greek formation like **klinanigo* (12a) 'close - open' is not acceptable, since 'closing something' presupposes that the object which is going to be closed has to be open first. However, Greek shows certain counterexamples, such as *alonotherizo* 'thresh - reap' (5a), and *pandrevaravoniazo* 'marry - engage' (< *pandrev(o)* 'marry' + *aravoniazo* 'engage'), where iconicity would predict the reverse. Interestingly, on the basis of Japanese data, Fukushima (2005: 572) has shown that temporal iconicity alone is not a sufficient factor for explaining the fixed order of verbs in [V V] compounds. Thus, the fixed order of the compound internal constituents could be due to some kind of conventionalization, which may be typical of the order that a language prefers for dvandva compounding.[21]

Finally, with respect to semantics, the two coordinated verbs express compatible (often synonymous) or opposite meanings. Manolessou & Tsolakidis (2007) have proposed that Greek [V V] dvandva compounds can be classified into four groups on the basis of the semantic relationship that holds between the first and the second verb: additive (13a), synonymic (13b), antonymic (13c), and generalizing (13d), while most of the times it is difficult to distinguish additive from synonymic ones.[22] If the two verbs are synonymous the compound denotes the joint activity over some period (Kiparsky

2009), and, in most cases, with a notion of emphasis. On the other hand, compounds involving antonymic verbs usually express an iterative alternation, and occur more often than the constructions whose constituents are of compatible meanings:

(13) (a) zimomajirevo < zim(ono) majirevo
knead - cook knead cook
(b) klidomadalono < klid(ono) madalono
lock - bolt lock bolt
(c) pijenoerxome < pijen(o) erxome
go - come go come
(d) ksimerovradiazome < ksimer(onome) vradiazome
be overtaken by day- be overtaken by day be overtaken by night
be overtaken by night
'spend all time' {here also, a better gloss}

3 A linguistic innovation

What we have seen so far is that a phenomenon, which is absent or marginal in genetically related languages, may become productive in one of them, and may make more similar languages that are genetically distinct. In our case, the pattern of [V V] dvandva compounding, which is widespread in East and Southeast Asian languages, has developed into a productive process in the Indo-European Greek.

A crucial question that could arise is why this change has occurred.[23] One hypothesis would be to suggest that it was driven by a language-contact situation, which induced borrowing from one language to another. This hypothesis can be easily refuted with respect to the neighboring Latin, Italian, Albanian and the South-Slavic languages with which Greek has been in contact through its long history, since they do not have any similar [V V] constructions. As far as the neighboring Turkish is concerned, it should be noticed that there is a coordinate construction consisting of two verbs joined together by a bound conjunctive element *-(y)Ip* (cf. Kornfilt 1997, Göksel & Kerslake 2005), which could be considered to have triggered the introduction of verbal dvandva compounds in Greek. However, the Turkish construction is different from the Greek one in many respects. First, it allows adjoining verbs of different argument structures (14a), while in Greek, only verbs with parallel argument structures undergo dvandva compounding:

(14) (a) Turkish
Çanta-lar-ı al-ıp çık-tı-lar.
bag-PL-ACC take-CS go.out-PAST-PL
'They took the bags and left' {What does CS stand for?}
(b) Greek
*pernofevg-un tin tsanta
take.go-3PL the bag
'They take the bag and leave'

Second, when there is insertion of an adverbial element between the two verbs in Turkish, the first verb remains without inflection (15b, c). On the other hand, when

an adverb separates the two verbs in Greek, the construction is not a compound but assumes the form of a coordinate sentence with two fully inflected verbs. In addition, if the second verb is transitive it takes a pre-clitic referring to the object (16b, c):

(15) Turkish
  (a) kapı-yı aç-ıp kapat-tı
  door-ACC open-CS close-PAST
  '(S)he opened and closed the door'
  (b) önce kapı-yı aç-ıp sonra kapat-tı
  before door-ACC open-CS close-PAST
  '(S)he opened the door first and then closed it'
  (c) kapı-yı bir aç-ıp bir kapat-tı
  door-ACC once open-CS once close-PAST
  'Once (s)he opened the door once she closed it'

(16) Greek
  (a) oli ti mera anigoklin-e tin porta
  all the day open.closed-PAST.3SG the door
  '(S)he opened and closed the door all day long'
  (b) prota anij-e tin porta ke meta tin eklin-e
  before open-PAST.3SG the door and then it close-PAST.3SG
  '(S)he opened the door first and then she closed it'
  (c) mia anij-e tin porta mia tin eklin-e
  once open-PAST.3SG the door once it close-PAST.3SG
  'Once (s)he opened the door once she closed it'

The suggestion that Greek [V V] dvandva compounds do not originate from Turkish constructions with *-(y)Ip* is also supported by dialectal evidence. While there are massive numbers of [V V] dvandva compounds in Modern Greek dialects, only one example seems to be attested in Cappadocian (17), the dialect which was spoken in Turkey (former Asia Minor) before 1923, and has been heavily affected by Turkish following the Seljuk invasion in the 12th century, and the subsequent Ottoman conquest in the 14th century (cf. Dawkins 1916, Janse 2004).[24]

(17)	maramudjazu	< mar(enome)	mudjazu (Andriotis 1960)
	wither - become numb	wither	become numb

Another example, *perpeno* 'take-go' (< *per(o)* 'take' + *peno* 'go'), which is mentioned by Janse (2007), is rather a translation of the Turkish *al-ıp çık-ıyor* 'take and go', since, as stated above, it combines verbs with different argument structures.[25]

Therefore, the appearance of [V V] dvandva compounds in Greek should not be considered as the outcome of language contact with Turkish. Nevertheless, it would be reasonable to suggest that the Turkish coordinative constructions with *–(y)Ip* may have contributed to the acceleration of the process, and reinforced its spread in Greek.

If language-contact factors are not the causal factor for the rise of [V V] innovative structures in Greek, there may be a possible language-internal change. Along these lines, a plausible hypothesis would be to assume that the specific compounding pattern has occurred in order to accommodate needs that have been created elsewhere, for instance in syntax, and more particularly in verbal coordinated phrases. In fact, according to Humbert (1973: 85–87), in the period that goes from Classical Greek (5th–4th c. BC) to Modern Greek (from 16th c. AD to our times), paratactic constructions have become more frequent in use. Significant proof for the growth of paratactic structures provides the common conjunction of coordination *ke* 'and', which has developed functions other than those typical of a coordination marker. For instance, in the following sentence *ke* functions like an explicative marker:[26]

(18) pijene ke se fovame
Go because you I.am.afraid
'Go because I am afraid of you'

Although the increase of formal paratactic structures may have contributed to reinforce the productivity of [V V] dvandva compounding in Modern Greek, the growth of parataxis could not be the reason why this phenomenon has occurred: the predominance of formal paratactic structures in syntax would have resulted in structures with a sequence of fully inflected verbal forms, and not in compounds, which involve stem combinations. Crucially, paratactic structures with a sequence of two inflected verbs do not generally exist in Greek, and the few attested examples are either nominalizations in the imperative form (19a), or fixed phrases, which are mostly based on lexicalized verb combinations (19b):[27]

(19) (a) Den mu aresi afto to pijene ela
not me like this the go.IMPV.2SG come.IMPV.2SG
'I do not like this come and go'
(b) trexa jireve
run.IMPV.2SG search.IMPV.2SG
'run and search' (said for something impossible)

In my opinion, in order to explain the appearance of [V V] dvandva compounds one should look at the morphology of the language, and the general structural resources it has at its disposal.[28] Within this spirit, I would like to claim that the principal reason for this innovation can be found within the general compounding system itself, which exhibits an increasing degree of productivity since the Mycenaean period, and becomes very productive in late Medieval Greek (after the 13th c. AD), with a substantial use of compounds of all categories and parts of speech. While there are no Mycenaean dvandva compounds in the existing texts, as noted by Meissner & Tribulato (2002: 295),[29] several [N N] formations (e.g. *oinogala* 'wine and milk' in Hippocrates) and [A A] formations (e.g. *glykypikros* 'sweet and bitter' in Sappho) can be attested in Classical Greek (5th–4th c. BC, Debrunner 2006, Jannaris 1897). However, the process of nominal dvandva compounding remains marginally productive in Classical Greek (Muller 1920), and its

productivity seems to be raised during the Hellenistic period (3rd c. BC–3rd c. AD), according to Jannaris (1897), Hatzidakis (1905–1907), and Debrunner (1917). Nominal dvandva compounds start appearing massively after the 10th c. AD, especially in language registers that favour their use, for instance in vernacular romances and folk literature in general (see Beaton 1989), with the exception of [V V] structures, which are attested later, namely around the 14th c. AD, as shown in Aerts & Hokwerda (2002), Manolessou & Tsolakidis (2007), Nicholas & Joseph (2009). Today, as already stated in section 1, [V V] dvandva compounding is particularly productive in the dialects, which provide a rich source of information, especially with respect to areas where written documents are not available.

Crucially, the emergence of [V V] dvandva compounds has completed the coordinative compounding patterns of the language, which until the late Medieval period, consisted of [N N] and [A A] compounds. Thus, I would like to suggest that this innovation brought an optimization to the morphology of Greek compounding (in Kiparsky's 2003 terms), in that it increased systematicity and uniformity within the compounding system. More specifically, I propose that in Ancient Greek (i.e. in the Classical period according to the attested examples) the language had developed a [X X] compounding pattern (where X represents a major grammatical category, noun, adjective or verb),[30] within the framework of an observed tendency for the rise of productivity of compounding in general. This pattern was instantiated with the development of [N N] and [A A] structures, but only in late Medieval Greek it has become more uniform and systematic with the appearance of the missing category, that of [V V] dvandva compounds.

Another factor has provided substantial support to this innovative change: the occurrence of subordinative verbal compounds, under the form of [N V] and [Adv V] constructions, few examples of which are also detected in Ancient Greek. It is important to notice though that in Classical Greek the tendency was to avoid primary compounds with a verb as second constituent, unless the first component was a preverb (20a). The other verbal constructions are either some rare [Adv V] formations (20b), or certain back formations deriving from nominal compounds (20c):

(20) Ancient Greek (Classical period)

(a) [PRV V]

hypokeimai	< hypo-	Keimai	
be situated under	under	be situated	
'be subject to'			

(b) [Adv V]

kakophroneo:	< kak(o:s)	phroneo:
badly think	badly	think, believe
'have bad plans'		

(c) [N V]

anthro:poktoneo :	< anthro:p(os)	-ktoneo:
man kill	man	kill
'kill a man'		

Verbal constructions with a preverb at the left-hand side constitute borderline cases between compounding and prefixation, since preverbs are not clear-cut lexemes and could be treated as affixes. Therefore, their presence should not be considered to have played a crucial role for the appearance of [V V] dvandva compounds. However, in accordance with Nicholas & Joseph (2009), I would like to claim that formations such as the ones of (20b,c) have influenced the development of [V V] compounds.[31] The number of these types of compounds is very restricted in Ancient Greek, but they start being productive during the Hellenistic period, and the Medieval texts (even those of an early period) provide massive examples of both patterns (see Kriaras 1969–2003). Nevertheless, occurrences of [N V] compounds are generally fewer than those of [Adv V] ones. As suggested by Ralli (2007b, 2008b), while [Adv V] compounds constitute primary formations in Ancient Greek, verbal [N V] ones originate from nominal compounds, and are secondary constructions, produced by back-formation from subordinative [N N] synthetic ones. For instance, (20c) originates from its nominal counterpart *anthro:poktonos* 'man killer', which contains a bound deverbal nominal stem *–kton(os)*, derived from the verb *kteino:* 'to kill'. Significant proofs to this claim constitute the form of the verbal element *-ktoneo:* of (20c), which cannot stand as an autonomous verbal word, as well as its inflection and stress position, which differ from those of the original verb *kteino:*. *-ktoneo:* inflects according to the second conjugation class, while *kteino*: belongs to the first. Moreover, while *kteino*: is stressed on /ei/, *ktoneo:* displays a stress on /e/. Finally, according to Ancient Greek dictionaries (e.g. Liddell, Scott et al. 1940) the vast majority of nominal compounds, like *anthro:pokton(os)*, are attested earlier than the verbal ones (e.g. *anthro:poktoneo*).

Given the rise of productivity of secondary [N V] compound formations like *anthro:poktoneo*:, I further suppose that they have contributed to the emergence of primary [N V] compounds, whose second component is not a bound stem anymore, but a verbal word, which can also function as an autonomous item. Thus, there is an explanation about the late appearance (after the Hellenistic period) of compounds like *kardiopono* 'have a heart pain' (< *kardi(a)* 'heart' + *pono* 'be in pain', 4th c. AD) or *kiliopono* 'have a belly pain' (< *kili(a)* 'belly' + *pono* 'be in pain', 7th c. AD), where *pono* is an independent verb. It should be added that the Kriaras Dictionary of Medieval Greek (1969–2003) displays a lot of occurrences of [N V] compounds of both types, that is those containing bound verbal forms and those involving autonomous ones, something which proves the growth of productivity of these constructions.[32]

Returning now to the issue of the development of [V V] dvandva compounds, I would like to propose that the two changes are connected, namely, the rise of productivity of subordinative [Adv V] and [N V] compounds, and the emergence of [V V] dvandva compounds. They had an impact on the expansion of the verbal compounding system in Greek, and contributed to the growth of productivity of compounding in general, which is richer today compared to that of Ancient Greek.

Schematically, the following points can be identified with respect to the change:

1. The starting point: the phase preceding the change (increase of productivity of compounding, as well as appearance of dvandva [N N] and [A A] compounds in Classical and Hellenistic Greek).

2. The change: introduction of [V V] dvandva compounds in late Medieval Greek, following the rise of productivity of [N V], [Adv V] formations, and coordinative compound structures in general. The change makes the compound-formation patterns more uniform and systematic by completing the [X X] dvandva pattern, which gets a new instantiation with the combination of two verbs. It also accelerates the growth and spread of verbal compounding.
3. The surface effect: the appearance of a substantial number of [V V] dvandva compounds in the dialects, compared to the moderate number of occurrences in the standard language.

Finally, the remaining question that needs an answer is why there are no [V V] compounds dvandva in the other Indo-European languages (with the exception of certain Russian dialects), and if there are common features that motivate the existence of [V V] dvandva compounds in Greek and East/Southeast Asian languages. As suggested by Tania Kuteva (p.c.), languages do not need to be genetically related, or be in contact, in order to adopt common patterns to project their conceptualization of the world. In the same vein, Sadock (1998: 162) has observed that languages of a very different type can be similar with respect to compounding power, and those of extremely similar build can differ strikingly. Thus, although there is no direct connection between the type of morphology of Greek (fusional) and that of the East/Southeast Asian languages (agglutinating or isolating), the kind of compound formations the particular languages present can share similarities. Nevertheless, the fact that most of the other modern Indo-European languages are poorer than Greek as far as their verbal compounding system is concerned may provide some hints as to why they do not have [V V] dvandva constructions. For instance, it is important to note that only Greek, from the most widely spoken Indo-European languages, displays a relatively free use of verbal categories in its compound formations. This use is attested in all types of verbal compounds, that is [N V], (e.g. *lagokimame* 'sleep like a rabbit' < *lag(os)* 'rabbit' + *kimame* 'sleep'), [Adv V] (*ftoxoperno* 'live poorly' < *ftox(a)* 'poorly' + *perno* 'pass, live'), and [V V] (*anigoklino* 'open-close' < *anig(o)* 'open' + *klino* 'close') ones. However, this issue remains relatively unexplored, till further research is conducted on this matter, which goes beyond the limits of the present work.

4 Conclusions

In this paper, I have shown that [V V] dvandva compounds constitute a grammatical innovation in Greek. In spite of the fact that they display a moderate productivity in Standard Modern Greek, they appear massively in Modern Greek dialects. [V V] dvandva compounds exhibit a number of properties that cannot be accounted for by language contact or by areal pressure. This has led me to the assumption that their development is due to a language-internal change, which is related to the growth of compounding, more particularly co-compounding and verbal compounding, throughout the history of Greek. I have proposed that within this system, the introduction of [V V] dvandva constructions, which were absent till the 14th c. AD, completed the compounding pattern [X X] involving the combination of two identical categories, and

made it more uniform and systematic: since [N N] and [A A] formations were already productive in late Medieval period, the only missing structure was the one containing two verbs. The change was facilitated by the existence and productive use of other verbal compounds, that is [N V] and [Adv V] ones.

Notes

1. Parts of this paper have been presented at the meeting *Levels of Analysis in the History of Indo-European Languages* (University of Trieste: May 2008), at the *136th International Conference of the Linguistic Society of Japan* (Tokyo, Gakushuin University: June 2008), and in Cambridge (Dept. of Modern Greek: October 2008). I thank the audiences of these meetings for constructive remarks and criticism. I am very much indebted to Geert Booij and Geoffrey Horrocks for their valuable observations on an earlier version of this paper, Io Manolessou for her insightful remarks and most valuable assistance with the diachronic data, and Metin Bagriaçik for his help with Turkish. I am also grateful to Anna Roussou and two anonymous reviewers, whose comments benefitted the paper greatly.
2. For reasons of clarity, parts of the constituents which do not surface in compounding are included in parentheses. Stress will be indicated only if it is relevant for the discussion.
3. The word *kinigós* 'hunter' can be further analyzed into the stem (*kinig-*) and the inflectional ending *-os*.
4. Since Bloomfield (1933), the term 'copulative compound' refers to both coordinative and appositional ones.
5. However, as suggested by an anonymous reviewer, in several languages verbal coordination is expressed without any overt conjunction.
6. According to Wälchli (2005: 162, 204), verbal dvandva compounds do not occur in Standard Russian, where co-compounding is almost absent, but they are used in folklore and in certain Russian dialects.
7. Note that the meaning of these compounds is not clear for all native speakers. Under a different interpretation, they might be considered to belong to the coordinative type. In fact, *xaskojelo* (3b) could also mean 'gape and laugh' at the same time. As an anonymous reviewer has suggested, the demarcation between coordinative and subordinative compounds is not obvious, and the cause-effect relationship is arguably coordinative.
8. *Anaps-* is the perfective stem of the verb *anavo* 'to light'. In this form, the compound-internal aspectual marker *–s-* has lost its actual morphosyntactic value, and should be considered as a fossilized element. See Ralli (2007a, in preparation) for similar cases in Greek compounds.
9. Masayoshi (1999: 245) claims that in Japanese, true dvandva compounds, where the verbs possess an equal level of importance, are not as frequent as cases where one of the component verbs modifies the other.
10. Nicholas & Joseph (2009) mention the example *sfalizoromanizusin* 'lock-bolt.3PL' from Ptochoprodromos who lived at the 12th c. AD. However, the manuscript they refer to is from the 15th c. AD, and does not contain a one-word form, but two separated verb forms, *sfalizu* 'lock.3P.Pl', *romanizusin* 'bolt.3PL'. Moreover, the verbs appear in a non-metrical verse, which means that one of the two synonyms is a later addition (possibly a gloss). Therefore, it is doubtful that the example is a [V V] dvandva compound, and even more certainly it is not of the 12th c. AD.
11. On a map drawn by Wälchli (2005: 215) about the levels of co-compounding in general, Modern Greek is listed among the languages that show an upper low level, together

with Turkish, Hungarian, Finnish, Estonian and Persian. However, this position does not correspond to the situation portrayed by the Modern Greek Dialects, where the pattern of co-compounding is very productive, and affects nouns, adjectives and verbs.

12. The geographic area, where the example is taken from, is noted in parenthesis.
13. In what follows, I also list examples from subordinative (sub-) compounds in order to allow the reader to get a clear picture of the compounding properties of [V V] dvandva formations.
14. *-simo*, *-ma* and *–ia* are deverbal suffixes, which serve to form nouns out of verbs. As noted by Drachman & Malikouti-Drachman (1994), *-ma* and *–simo* are in a complementary distribution. *–ma* is added to bases with more than two syllables (e.g. *anav(o)* and *anavozvino* in 8a), while *–simo* selects bases with two syllables (e.g. *zvin(o)* in 8a and *pezo* in 8b).
15. As shown by Ralli (1992, 2007a, 2009), Greek compounds have a binary structure and are subject to recursion. Multiple-verb compounds could be considered to have recursive structures as well, although it is not always easy to prove this assumption.
16. *Pikroglikos* denotes the qualities of being bitter (*pikr(os)*) and sweet (*glikos*). As such, it is a real dvandva compound (cf. the discussion in Bauer 2008: 12). About adjectival dvandva compounds in Ancient Greek, see also Wälchli (2005: 78).
17. Matsumoto (1996) has argued that V2 is the head of Japanese dvandva compounds, since it is the one which shows the inflectional pattern of the compound.
18. Compound internal inflection is only allowed in compounds of Ancient Greek origin. However, as noted by Ralli (2007a), this inflection is fossilized in that its morpho-syntactic features are not functionally active. See Ralli (2007a, in preparation) for more details on this topic.
19. As noted by Geert Booij (p.c.), cases like [V V] dvandva compounds, where inflection is only on the second member, provide a nice example of the distinction that should be made between formal structure and semantics. For instance, Dutch [A A] compounds, like *blauw-rood* 'blue-red', have only the second constituent inflected, even though semantically the two adjectives are equal.
20. Consider, however, the following coordinative formations, where only adjectives display a free constituent order:

(i)

	(a) [V V]	(b) [N N]	(c) [A A]
1.	anigoklino	jinekopeda	mavroaspros
	open - close	women - children	black-white
2.	*klinanigo	*pedojineka	aspromavros
	close - open	children - women	white-black
3.	trogopino	alatopipero	glikopikros
	eat - drink	salt - pepper	sweet-bitter
4.	*pinotrogo	*piperoalato	pikroglikos
	drink - eat	pepper - salt	bitter-sweet

Since dvandva compounds are not generally submitted to headedness restrictions, the flexible order in [A A] compounds can be justified. However this is not the case as far as [N N] and [V V] compounds are concerned, where, as already mentioned, language specific conventions may play a role.

21. Following Wälchli (2005: 104), the fixed order is not a sufficient and necessary criterion for co-compounds, as it may also be a property of binomials.
22. Wälchli (2005: 137–138) divides co-compounds in the following categories according to their semantics: additive, generalizing, collective, synonymic, ornamental imitative, figurative, alternative approximate. Manolessou & Tsolakidis (2007) have shown that only four of these categories are relevant for Greek [V V] compounds.

23. As an anonymous reviewer has suggested, within a different framework from the one that is followed in the paper (i.e. within a non-deterministic approach), another option would be to consider that this change has occurred for no reason (which would be a null hypothesis).
24. Italiot, another dialect which has been heavily affected by a neighbouring language (i.e. Italian and the local dialect of Salento), does not have similar constructions. According to many scholars (see Manolessou 2005 for more details), Italiot was cut off from mainland Greece in the late Medieval period (after the 11th c. AD). A plausible hypothesis for justifying the absence of [V V] dvandva compounds in this linguistic system is to propose that the isolation of the area happened before the appearance of these compounds, that is before the 14th c. AD.
25. That *perpeno* behaves similarly to its Turkish correspondent construction is also demonstrated by the change in aspect, and modality which triggers a change to the form of both verbs, and not only to the form of the second one, as is the case with all Greek [V V] dvandva compounds. In fact, *perpeno* becomes *pirpiga* in the perfective value of the past tense (aorist), and *parpago* in the subjunctive, as noticed by Janse (2007). Similarly, in Turkish, *-(y)Ip* conjoins verbs of an equal status with respect to aspect and modality, according to Göksel & Kerslake (2005: 510–511).
26. Formally, the sentence has a coordinate structure. However, the explicative function of *ke* (subordinating property) makes it rather a pseudo-coordination (see Grover 1999), although the boundaries between coordination and pseudo-coordination are not clear. It should be noticed that the pattern VP *ke* ('and') VP in Standard Modern Greek is very frequent, and is not restricted to the combination of specific verbs.
27. Nicholas & Joseph (2009) also mention few cases of verb serialization, with two inflected verbs and no coordination marker, which as they clearly show, are not really comparable to [V V] compounds.
28. See Singh (1982) for a similar view with respect to Hindi synonymic coordinative compounds, consisting of a native and a non-native constituent.
29. Andriotis (1960: 43) mentions that there is a single example of an Ancient Greek [V V] dvandva compound, which is attested in Homer (Iliad P.792): *strephedineomai* 'to whirl'.
30. I have chosen not to include [Adverb Adverb] compounds among these formations, since as noted by Ralli (2007a, in preparation), adverbial compounds are secondary constructions, which, like most adverbs, derive from adjectives with the addition of the derivational suffix *–a* (e.g. *kalotixa* ', with good luck, luckily' < *kalotix(os)* 'with good luck, lucky' + *-a*). Generally, there are only few adverbs, usually temporal (e.g. *simera* 'today') and locative (e.g. *(e)pano* 'above'), which are morphologically simple, and can appear in a closed and very limited set of dvandva compounds, such as *simera-avrio* 'today-tomorrow' and *panokato* 'up-down'.
31. Nicholas & Joseph (2009) consider that [V V] dvandvas originate from [N N] ones. They claim that [N V] structures, and subsequently [V V] ones, have been created on the basis of [N N] formations by denominalization (backformation). They draw their arguments from the existence of two Hellenistic noun compounds *afksomiosis* 'increase-decrease' and *prosthaferesis* 'addition-subtraction'. However, they admit that further motivation is needed in order to explain the rise of [V V] dvandvas. A suggestion that [V V] compounds go hand in hand with [N V] ones is also found in Kiparsky (2009).
32. Kiparsky (2009) suggests that the rise of a new category in the verbal morphology, i.e. the verbal stem, is the reason why there is a late introduction of [N V] compounds in the system of Greek (after the Hellenistic period). In fact, in Classical Greek, verbs entered morphology either as roots, or as aspect marked stems, the latter being inputs only to inflection.

References

Aerts, Willem J. & Hero Hokwerda 2002. *Lexicon of the chronicle of Morea*. Groningen: Forster.

Andriotis, Nikolaos 1960. Ta Parataktika Rimatika Sintheta stin Elliniki Glossa [Coordinative verbal compounds in the Greek language]. *In Memory of Manolis Triantaphyllidis*. Thessaloniki: University of Thessaloniki. 43–61.

Bauer, Laurie 2001. *Morphological productivity*. Cambridge: Cambridge University Press.

Bauer, Laurie 2008. Dvandva. *Word Structure* 1: 1–20.

Beaton, Robert 1989. *The medieval Greek romance*. Cambridge: Cambridge University Press.

Bhatia, Tej K. 1993. *Punjabi*. London and New York: Routledge.

Bloomfield, Leonard 1933. *Language*. New York: Holt.

Bussmann, Hadumod 2002. *Lexikon der Sprachwissenschaft*. Stuttgart: Kröner.

Dawkins, Richard 1916. *Modern Greek in Asia Minor*. Cambridge: Cambridge University Press.

Debrunner, Albert 1917. *Griechische Wortbildungslehre*. Heidelberg: Carl Winter (Greek translation 2006. *O Schimatismos Lekseon stin Archaia Elliniki* Electronic site: www.Greek-language.gr/GreekLang/ancient_Greek/tools/structure/index.html).

Drachman, Gaberell & Angeliki Malikouti-Drachman 1994. Stress and Greek compounding. *Phonologica* 1992: 55–64.

Fukushima, Kazuhiko 2005. Lexical compounds in Japanese: Lexicon vs. syntax. *Language* 81 (3): 568–612.

Göksel, Asli & Celia Kerslake 2005. *Turkish: A comprehensive grammar*. London and New York: Routledge.

Grover, Claire 1999. Coordination. In Keith Brown and Jim Miller (eds.), *The concise encyclopedia of grammatical categories*. Oxford: Elsevier.

Guevara, Emiliano & Sergio Scalise 2008. Searching for universals in compounding. In: Sergio Scalise, Elisabetta Magni, Edoardo Vineis & Antonietta Bisetto (eds.) *Universals of language*. Amsterdam: Springer. 1–28.

Hatzidakis, Georgios 1905–1907. *Meseonika ke Nea Ellinika* [Medieval and Modern Greek]. Athens: Sakellariou.

Horrocks, Geoffrey 1997. *Greek: A history of the language and its speakers*. London: Longman.

Humbert, Jean 1973. *Syntaxe grecque*. Paris: Klincksieck. 3rd edition.

Jannaris, Anthony, N. 1897. *An historical Greek grammar*. London: Macmillan.

Janse, Mark 2004. Animacy, definiteness, and case in Cappadocian and other Asia Minor dialects. *Journal of Greek Linguistics* 5: 3–26.

Janse, Mark 2007. The inflection of coordinative verbal compounds in Greek and Cappadocian. Paper read at the *8th International Meeting of Greek Linguistics*. University of Ioannina.

Kageyama, Taro 1982. Word formation in Japanese. *Lingua* 57: 215–258.

Kageyama, Taro 2009. Japanese compounds. In Rochelle Lieber & Pavol Štekauer (eds.), *The Oxford handbook of compounding*. Oxford and New York: Oxford University Press. 512–526.

Kiparsky, Paul 2003. Analogy as optimization: 'axceptions' to Sievers' Law in Gothic. In Aditi Lahiri (ed.), *Analogy, levelling and markedness*. Berlin: Mouton de Gruyter. 15–47.

Kiparsky, Paul 2009. Verbal co-compounds and subcompounds in Greek. *Proceedings of the Workshop in Greek Syntax and Semantics at* MIT, June 2007. *MIT Working Papers in Linguistics 57*.

Kornfilt, Jaklin 1997. *Turkish*. London and New York: Routledge.

Kriaras, Emanouil 1969–2003. *Leksiko tis Mesaionikis Ellinikis Dimodous Grammateias* [Dictionary of the Medieval Greek vernacular literature]. Thessaloniki: Institute for Greek Studies.

Li, Yafei 1990. On V-V compounds in Chinese. *Natural Language and Linguistic Theory* 8: 177–207.
Li, Yafei 1993. Structural head and aspectuality. *Language* 69: 480–504.
Li, Yafei 1998. Chinese resultative constructions and the uniformity of the theta assignment hypothesis. In Jerome Packard (ed.), *New approaches to Chinese word formation*. Berlin: Mouton de Gruyter. 285–310.
Liddell, Henry, Robert Scott, Henry Jones, Roderick Mackenzie, Peter Glare & Anne Thomson 1940 (re-edition 1996). *A Greek-English lexicon with a revised supplement*. Oxford: Oxford University Press.
Manolessou, Io & Symeon Tsolakidis 2007. Ta Parataktika Sintheta tis Neas Ellinikis: Diachronia ke Sinchronia [Modern Greek coordinative compounds: diachrony and synchrony]. *Electronic Proceedings of the 8th International Meeting of Greek Linguistics*. Ioannina: University of Ioannina.
Manolessou, Io 2005. The Greek dialects of Southern Italy: an overview. *KAMPOS*: *Cambridge Papers in Modern Greek* 13: 125.
Marchand, Hans 1969. *The categories and types of Present-day English word-formation: a synchronic-diachronic approach*. 2nd edition. Munich: Beck.
Masayoshi, Shibatani. 2002. *The languages of Japan*. Cambridge: Cambridge University Press.
Meissner, Torsten & Olga Tribulato 2002. Nominal composition in Mycenaean Greek. *Transactions of the Philological Society* 100 (3): 289–330.
Muller, Hendrik C. 1920. Greek dvandva compounds. *Classical Quarterly* 14: 48.
Nguyen, Dinh Hoa 1997. *Vietnamese*. Amsterdam: John Benjamins.
Nespor, Marina & Angela Ralli 1996. Morphology-phonology interface: phonological domains in Greek compounds. *The Linguistic Review* 13 (3–4): 357–382.
Nicholas, Nick & Brian D. Joseph 2009. Verbal dvandvas in Modern Greek. *Proceedings of the Workshop in Greek Syntax and Semantics at* MIT, June 2007. *MIT Working Papers in Linguistics 57*.
Oniga, Renato 1992. Compounding in Latin. *Rivista di Linguistica* 4(1): 97–116.
Packard, Jerome 2000. *The morphology of Chinese*. Cambridge: Cambridge University Press.
Ralli, Angela 1992. Compounds in Modern Greek. *Rivista di Linguistica* 4(1): 145–174.
Ralli, Angela 2007a. *I Sinthesi Lekseon: Diaglossiki Prosengisi* [The composition of words: a cross-linguistic approach]. Athens: Patakis.
Ralli, Angela 2007b. Greek deverbal compounds with bound stems. *Southern Journal of Linguistics* 29: 150–173.
Ralli, Angela 2008a. Compound markers and parametric variation. *Language Typology and Universals* (*STUF*) 61: 19–38.
Ralli, Angela 2008b. Composés déverbaux grecs à "radicaux liés". In D. Amiot (ed.), *La composition dans une perspective typologique*, Arras: Artois Presses Université. 189–210.
Ralli, Angela 2009. IE, Hellenic: Modern Greek. In Rochelle Lieber & Pavol Štekauer (eds.), *The Oxford handbook of compounding*, Oxfordand New York: Oxford University Press. 453–463.
Ralli, Angela to appear. Morphology vs. dialectology: insights from Modern Greek dialects. *Morphology* (Special issue, *Morphology and Dialectology*).
Ralli, Angela in preparation. *Greek compounds*. New York: Springer.
Ralli, Angela & Athanasios Karasimos to appear. The bare stem constraint in Greek compound formation. *Gengo Kenkyu* 2009: 135.
Renner, Vincent 2008. On the semantics of English coordinate compounds. *English Studies* 89 (5): 606–613.

Revithiadou, Anthi 1997. Prosodic domains in Greek compounding. In Gaberell Drachman, Angeliki Malikouti-Drachman, Celia Klidi & Jannis Fykias (eds.), *Greek Linguistics 95. Proceedings of the 2nd International Conference on Greek Linguistics*. Graz: Neugebauer Verlag. 107–116.

Sadock, Jerrold M. 1998. On the autonomy of compounding morphology. In Steven Lapointe, Diane Brentari & Patrick Farrell (eds.), *Morphology and its relation to phonology and syntax*. Stanford: CSLI Publications. 161–187.

Singh, Rajendra 1982. On some 'redundant' compounds in Modern Hindi. *Lingua* 56: 345–351.

Sohn, Ho-Min 1999. *The Korean language*. Cambridge: Cambridge University Press.

Trask, Robert L. 1993. *A Dictionary of grammatical terms in linguistics*. London and New York: Routledge.

Wälchli, Bernhard 2005. *Co-compounds and natural coordination*. Oxford and New York: Oxford University Press.

Wald, Benji & Lawrence Besserman 2002. The emergence of the verb-verb compound in twentieth century English and twentieth century linguistics. In Donka Minkova & Robert Stockwell (eds.), *Studies in the History of the English Language. A Millennial Perspective*. Berlin: Mouton de Gruyter. 417–447.

Whitney, William Dwight 1889. *Sanskrit grammar*. Leipzig: Breitkopf and Härtel.

Zwicky, Arnold 1985. Heads. *Journal of Linguistics* 21: 1–20.

Author's addresses: (Angela Ralli)
Department of Philology
University of Patras
26500 Rio-Patras
Greece
USA
E-mail: ralli@upatras.gr

DOI: 10.3366/E1750124509000294