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Morphological theory and synchronic variation

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1. Contact morphology in a micro-variation perspective: premises and assumptions

As already noted by Whitney (1881), languages do not accommodate loan items in a uniform, universal way. For instance, Wichmann & Wohlgemuth (2008) and Wohlgemuth (2009) have shown that there exist different integration patterns and strategies not only cross-linguistically but also within a single recipient language. In this spirit, the purpose of this study is twofold: (a) to describe the diversity of these techniques in a wealth of varieties of the same recipient system, in this case, Modern Greek (hereafter Greek), which have been affected by typologically different languages; (b) to discuss the factors which constrain their use as well as those inducing the choice of integrating elements from a repertoire of competing items.

By examining the borrowing of verbs, I will show that the same donor can affect the varieties of a recipient system in divergent ways and that varieties affected by different donors can use the same techniques in the accommodation of their loans. Moreover, I demonstrate that loan verbs in Greek can be integrated according to three different integration strategies: direct, indirect and light-verb use, in the sense of Wohlgemuth (2009). The direct strategy, presupposes that the loan verb undergoes only slight phonological modification before being introduced in the recipient language, the indirect strategy requires the presence of an overt integrating element, and the use of a light verb constitutes a less elaborate manner to adapt verbs.

Theoretically speaking, I argue, first, that in a morphologically rich language like Greek, native word-formation properties, such as the preference for deriving words from stem bases, play a significant role into framing the output of loan items. Second, the choice of a particular integrating element in a recipient language can be determined either by the different degree of productivity of native affixes, competing as possible integrating elements, or by a certain phonological similarity between native and corresponding items in the donor. Third, the structural compatibility between two languages in contact may be a decisive factor facilitating transfer, while structural incompatibility may lead to the adoption of a light verb. Fourth, borrowing might affect the native morphology, since the reanalysis of loan elements may prompt their amendment as active functional ones in the recipient's morphological system. Fifth, profound bilingualism and awareness of the dominant language, which usually leads to heavy borrowing, may also be the cause for a more elaborate accommodation of loans with the use of native integrating elements.

2. The data

The data under investigation are drawn from a corpus containing about 1,000 loan verbs from the archives of the *Laboratory of Modern Greek Dialects* (LMGD) of the University of Patras. They come from three dialects of Asia Minor Greek (Pontic,

Cappadocian and Aivaliot), but also from Lesbian, Cretan, Cypriot, Heptanesian, Grekanico, and Canadian Greek. These varieties are typologically different from the donor languages, that is from the agglutinative Turkish, the semi-analytical Romance and the analytical English. Occasionally, I also take into consideration Standard Modern Greek (SMG) showing that borrowing has enriched its morphological system.

Before proceeding to the examination of the data, allow me to say few words about the geographical position and the historical development of the dialects.

Pontus (situated in the Black Sea region), Cappadocia in South-central Turkey and Kydonies (simply called Aivali) on the Aegean coast of Western Turkey became parts of the Ottoman Empire from the 14th to 15th century, depending on the case. As a result, their Greek-based varieties, Pontic, Cappadocian and Aivaliot exhibit many contact-induced features from Turkish, predominantly on the vocabulary and to a lesser extent on the structural level, while retaining a number of shared characteristics with other Greek varieties of both the Greek mainland and Asia Minor (see, among others, Papadopoulos 1955, 1958 and Oikonomidis 1958 for Pontic, Dawkins 1916 and Janse to appear for Cappadocian, Sakkaris 1940 and Ralli 2017 for Aivaliot). The end of the war between Greece and Turkey in 1922, and the exchange of populations enforced by the Lausanne treaty in 1923, led to the subsequent massive movement of Greek-speaking Asia Minor people to mainland Greece, the Aegean islands and elsewhere, where they settled in various dialectal enclaves.¹ Nowadays, Pontic speakers can be found all over Greece, but mainly in the areas of Macedonia and Thrace², hints of Cappadocian are still spotted in Macedonia, while Aivaliot³ is relatively well recovered on the island of Lesbos. In fact, Lesbian resembles Aivaliot in many respects, in that both varieties belong to the group of Northern Greek dialects.

Cretan, the dialect of the island of Crete, displays a blend of Italo-Romance (Venetian) and Turkish loans (Pangalos 1955, Kontosopoulos 1994),⁴ since for more than four centuries (1211–1669), Crete was governed by Venice (Maltezou 1988), but from the beginning of the 17th to the beginning of the 20th c., the island was part of the Ottoman Empire.

Heptanesian, the dialect of the Ionian islands, shows many features from contact with Venetian, due to the Venetian rule for a long period that goes from the end of 14th to mid-19th c., depending on the island, but also from contact with Standard Italian, the official language used in administration and education since the 16th century (Cortelazzo 1989, Fanciullo 2008).⁵

Cypriot represents a good example of a linguistic system affected by several typologically different languages, depending on the period and the control of Cyprus by French rulers (12th – 15th c.), Venetians (15th -16th c.), Ottomans (16th – 19th c.) and English (19th - 20th c.). Most of borrowed items originate from Venetian and Turkish, while few French loans are still in use, a vast majority being replaced by Venetian ones

¹ Descendants from these refugees can also be found in America and other parts of Europe.

² Interestingly, Pontic is still widely spoken in certain dialectal enclaves in the western part of the Trebizond area (Tonya and Of), by Muslim Pontics, who were exempted from the population exchange. This variety is usually called Muslim Pontic (Mackridge 1990) or Romeyka. Pontic can also be found in certain areas of Georgia and the Northern Caucasus, where the 19th century emigration had led to the establishment of Pontic communities (Tobaidis 1996).

³ See the oral corpora of LMGD, selected during an expedition to the island of Lesbos in 2002.

⁴ Nowadays, Cretan is also spoken in Western Turkey by Muslim refugees who were forced to abandon Crete in 1924, following the Lausanne treaty (1923). Traces of Cretan can be found in Syria (Hamidie), where Cretan populations settled in the 19th century in order to avoid Ottoman persecutions.

⁵ According to Cortelazzo (1989) and Fanciullo (2008), from the 16th century, a sort of diglossia was used in the Republic of Venice. Italian was the language of administration, while Venetian was the variety used for daily communication. This situation was also transferred to areas ruled by Venice, among which, the Ionian islands.

during the Venetian dominion (Dendias 1923). As for loan words from English, they are recent formations, most of them dating from the 20th c.

The Greek speaking dialectal enclaves in Italy are located in Puglia (area of Salento, the so-called “Grecia Salentina”, Profili 1985) and Calabria (Bovese area, Katsoyannou 1995, Squillaci 2017). The dialect (the so-called “Grekanico”) competes with both the local Italo-Romance varieties and Italian, the official language of the state (Fanciullo 2001, Manolessou 2005).⁶ Griko and Greco display a number of differences (see, among others, Rohlf’s 1933, 1997; Karanastasis 1997). However, these differences are not significant in order to consider Griko and Greco as different dialectal systems; they constitute varieties of the same dialect. Crucially, there is no divergence in the way the two varieties adopt Italo-Romance verbs, since, as shown below, they both use the same integration strategy and integrating element. For the purposes of this paper, I will restrict my attention to Griko.

In this paper, I also take into consideration Greek spoken by first generation immigrants in Canada, which has been heavily affected by English. Interestingly, this variety diverges in its loan-verb integration as compared to that occurring in the Greek dialects mentioned above. Speakers use Greek either in family or with other members of their community and their English proficiency varies depending on several factors, among which, the degree of bilingualism, education, or even segregation in a Greek-speaking milieu.

3.1 Strategies in loan verb integration

3.1.1 Integration by indirect insertion

(1) Aivaliot/Lesbian (Ralli 2012a, 2017)

Loan	Turkish (3SG PAST) ⁷	Integrator
burd-iz-u ⁸	bur-du	-iz-
‘to twist’		
davrand-iz-u	davran-dı	
‘to behave badly’		
kazadizu	kazan-dı	
‘to become rich’		

(2) Cappadocian (Dawkins 1916, LMGD)

Loan	Turkish (3SG PAST)	Integrator
deld-iz-o	del-di	-iz-
‘to perforate with words’	‘to say’	
bitird-iz-o	bitir-di	
‘to finish’		
patlad-iz-o	pat-la-dı (pat ‘kind of noise’)	
‘to burst, explode’		

(3) Cretan (Pangalos 1955)

⁶ See Profili (1985), Telmon (1992), Katsoyannou (1995) and Manolessou (2005) for details about the socio-linguistic situation in the Greek-speaking areas of South Italy.

⁷ In this paper, verbs are given in their citation form in Greek, that is, in the first person singular of the present tense, since the overtly marked infinitive has been lost during the Hellenistic period (Horrocks 2010, Joseph XXX). Abbreviations in glosses are: 1SG=first person singular, 3SG=third person singular, 1PL=first person plural, 3PL=third person plural, AOR=aorist, IMPERF=imperfective, INF=infinitive, INFL=inflection, PAST=past, PERF=perfective, PRES=present.

⁸ Due to the phonological law of mid-vowel raising in unstressed position, typical of this variety and generally of Northern Greek dialects, the inflectional ending -o (first person singular) has become [u] in unstressed position.

Loan	Turkish (3SG PAST)	Integrator
jerad-iz-o	yara-dı	-iz-
‘to be worth of’		
kand-iz-o	kan-dı	
‘to sweeten’		
davrand-iz-o	davran-dı	
‘to be particularly active’		

(4) Cypriot (Hadjipieris 2015)

a. Loan	Turkish (3SG PAST)	Integrator
alikota-iz-o	aliko-dı	-iz-
‘to stop’		
jaralat-iz-o	yarala-dı (yara ‘wound’)	
‘to wound’		
kazand-iz-o	kazan-dı	
‘to become rich’		

b. (Dendias 1923)

Loan	Gallo-romance (3SG SIMPLE PAST)	Integrator
fin-iaz-o	fin-it	-iaz-
‘to finish’		
mantin-iaz-o	maint-int	
‘to maintain’		
protest-iaz-o	protest-a	
‘to protest’		
soufr-iaz-o	souffr-it	
‘to suffer’		

(5) Pontic (Papadopoulos 1955)

Loan	Turkish (Infinitive)	Integrator
xazırla-ev-o	hazırla-mak (hazır ‘ready’)	-ev-
‘to prepare’		
tokun-ev-o	dokun-mak	
‘to insult’		
ta(γ)ut-ev-o	dağıt-mak	
‘to scatter/disperse’		

(6) Griko (Ralli 2012b)

Loan	Salentino/Italian (Infinitive)	Integrator
kunt-e(v)-o	kunt-äre	-e(v)- ⁹

⁹ In Griko, -ev- has lost its final /v/ due to a phonological law which erases voiced fricative consonants in intervocalic position (Karanastasis 1997: 34-35):

(i) Griko	vs. SMG	
leome	leyome	‘we say’
strao	stravos	‘twisted’
simai	simaði	‘mark’

/v/ surfaces if followed by a consonant, as is the case of the past tense (aorist), where the stem ending in /v/ is combined with the perfective aspectual marker -s-. As further noticed by Karanastasis (1997: 34), the cluster /vs/ becomes by assimilation /fs/, and ultimately /ts/, being subject to the so-called “tsitacism” phonological phenomenon.

(ii) Griko

‘to narrate’		
nutrik-e(v)-o		nutric-are
‘to feed’		
resc-e(v)-o		riusc-ire
‘to succeed’		

The examples above constitute loanblends in Haugen’s (1950) terms, in the sense that foreign and native elements are mixed together: (a) verb bases are either Turkish or Romance (Italo-Romance or French), depending on the dominant system which has been imposed on the recipient language; (b) inflectional endings are Greek, since verbs in all Greek-based varieties follow the native morphological pattern which requires a stem to be combined with an inflectional affix in order to become a word (Ralli 2005); (c) integrating elements originate from a repertoire of competing denominal affixes belonging to the target language¹⁰; (d) foreign affixes may sometimes be transferred together with the base, as for instance, the Turkish denominal verbalizer *-la-* (see (2) (4a) and (5)) and the past tense marker *-DI-* (see (2-4) and (5a)). Finally, it is worth pointing out that the original transferred material is not always of the same type: Pontic (5) and Griko (6) adopt bare stems, while Aivaliot/Lesbian (1), Cappadocian (2), Cretan (3), and Cypriot (4) opt for the third singular past tense form.

3.1.2 Integration by direct insertion

(7) Aivaliot/Lesbian (Ralli 2012a, 2017)

a. Loan	Turkish (3SG PAST)
dajad-o	dayan-dı
‘to bear, endure’	
savurd-o	savur-du
‘to overthrow’	
sasird-o	şaşır-dı
‘to be at a loss’	
b. Loan	Venetian (Infinitive)
sirver-n-u	serv-ir ¹¹
‘to serve’	
salter-n-u	salt-ar
‘to jump’	
ariver-n-u	arriv-ar
‘to arrive’	

(8) Cappadocian (Dawkins 1916)

Loan	Turkish (3SG PAST)
yapt-o	kap-dı
‘to catch’	
jard-o	yar-dı

a. kore-o
dance.IMPERF.PRES-1SG
‘I dance’

b. korev-s-a -> korefsa -> koretsa
dance-PERF-PAST.1SG
‘I danced’

¹⁰ The main Greek derivational suffixes which productively form verbs out of nouns and adjectives are the following: *-iz-* (e.g. *arx-iz-o* ‘to begin’ < *arxi* ‘beginning’), *-(i)az-* (e.g. *lek-iaz-o* ‘to stain’ < *lek-es* ‘stain’), *-ev-* (e.g. *xor-ev-o* ‘to dance’ < *xor-os* ‘dance’), *-on-* (e.g. *lad-on-o* ‘to oil’ < *ladi* ‘oil’), *-en-* (e.g. *anas-en-o* ‘to breath’ < *anasa* ‘breath’).

¹¹ Venetian infinitival endings are deprived of the word final *-e* (compare Italian *arrivare* with Venetian *arrivar*).

‘to break’
 payurt-o bağır-dı
 ‘to yell’

(9) Cretan (Pangalos 1955)

a. Loan Turkish (3SG PAST)
 dajad-o daya-dı
 ‘to resist/support’
 sakind-o sakın-dı
 ‘to shun’

b. Loan Venetian (Infinitive)
 avizer-n-o avis-ar
 ‘to inform’
 pater-n-o pat-ir
 ‘to suffer’
 ajutar-o aiut-ar
 ‘to help’

(10) Cypriot (Hadjipieris 2015, Dendias 1923)

a. Loan Turkish (3SG PAST)
 avlat-o avla-dı
 ‘to seduce’ ‘to hunt/pursue’
 savurt-o savur-du
 ‘to overthrow’
 joklat-o yok-la-dı
 ‘to control’

b. Loan Venetian (Infinitive)
 trattar-o tratt-ar
 ‘to offer’ ‘to treat’
 siyurar-o assigur-ar
 ‘to ensure’
 netar-o net-ar
 ‘to clear’

(11) Heptanesian (Ralli 2012b, LMGD)

Loan Venetian (Infinitive)
 desponer-o dispon-er /despon-er
 ‘to dispose’
 fiorir-o fior-ir
 ‘to blossom’
 imitar-o imit-ar
 ‘to imitate’
 jarbujar-o ingarbugi-ar
 ‘to confuse’

The data from (7) to (11) show that the presence of an integrating element originating from a derivational affix is not always necessary to facilitate transfer from the source language to a Greek-based system. Crucially though, once adopted, all loans assume

overt inflection, but along the lines of Wohlgemuth (2009), an inflectional ending cannot be treated as integrating element if its presence is compulsory in the recipient system, as is the case in Greek. Interestingly, a thorough comparison of Turkish borrowings in Aivaliot/Lesbian (1, 7a), Cappadocian (2, 8), Cretan (3, 9a) and Cypriot (4, 10a), listed under the indirect and the direct insertion strategies, reveals that the target system may sometimes adopt both strategies, and, occasionally, for the accommodation of the same verb (e.g. Aivaliot/Lesbian *sakindo* and *sakindizu* ‘to shun’).

Note now that while Turkish verbal loans are subject to either indirect or direct insertion strategy, or even to both, with the exception of Griko (6), Italo-Romance verbs are adopted by the other dialects without the use of an integrating suffix, unless the *-n-* in the Aivaliot/Lesbian (7b) Cretan (9b) examples is treated as such.¹²

3.1.3 Integration with the use of a light verb

Speakers of Canadian Greek seem to follow a less elaborate manner to integrate verbal loans by combining the English verb with the Greek auxiliary verb *kano* ‘to do’. The compulsory Greek inflection is entirely assumed by *kano*, while the form of the English verb remains invariable.

(12) Canadian Greek (Maniakas 1991)

Loan	English (Infinitive)
kano panis	to punish
kano trai	to try
kano tend	to tend
kano bitap	to beat up
kano explein	to explain
kano aplai	to apply
kano anderstand	to understand

Intriguingly though, some English verbs in Canadian Greek seem to have been adopted under a different form, that is, with the *-aro* ending:

(13) Canadian Greek English (Maniakas 1991)

markaro	to mark
parkaro	to park
spidaro	to speed
muvaro	to move
blokaro	to block

It is important to point out that the verbs in (13) are also used in SMG under the same form. Greek immigration in Canada is relatively recent compared to that in the United States, speakers are still highly proficient in the Greek language and have never cut the ties with their mother land. Therefore, I believe that the second category of verbs do not belong to the vocabulary acquired in Canada, but they were either part of their original language when they came to Canada, or they have been acquired through frequent contact with SMG.¹³ In fact, a considerable number of verbs in *-aro* do not even originate from English: they have entered SMG from French between the second half of the 19th c. and the first half of the 20th c. (14a), or come from Italo-romance (14b):

(14)a. SMG/ Canadian Greek French

¹² In section 4.2.7, I claim that *-n-* is an aspectual marker and, as such, it should not be treated as an integrating element.

¹³ First generation immigrants, in their vast majority, have daily access to the Greek media, and follow close the developments of the socio-political situation in Greece.

makijaro	maquiller
filtraro	filtrer
lansaro	lancer
frenaro	freiner

b. SMG/ Canadian Greek	Italo-romance
arivaro	arrivare
barkaro	imbarcare

As proposed by Ralli (2016), in Standard Modern Greek *-ar-* comes from an allogeneous exaptation (see also Gardani 2016 for this notion), according to which the infinitival Italo-Romance marker *-ar(e)* has been transformed into a derivational suffix which serves to create verbs out of foreign bases, mainly nominal but also verbal. The *-ar-* pattern has been established and spread in Standard Modern Greek as the most productive one for the derivation of denominal verbs originating from a foreign base, independently of the source language type.

3. Discussion

4.1 The light verb use

From the data seen so far, foreign verbs which are transferred to Greek varieties are not integrated in the same manner: those which originate from Turkish and Romance are subject to indirect or direct insertion or even to both strategies; in contrast, for the transfer of English verbs, Greek speakers in Canada and the States resort to the use of a light verb. The obvious question seeking an answer is what may be the reason behind this disparate attitude. A suggestion that the difference in the adoption of an integration strategy may be due to the degree of contact and bilingualism seems to be untenable, since before 1924 (that is, before they moved to Greece), Cappadocian speakers mastered the dominant language in a rather similar way as today's Greek immigrants in Canada. However, Cappadocians accommodated Turkish verbs in a more elaborate manner than the latter do with respect to the English verbs. I believe that this different performance is primarily due to intra-linguistic factors, namely to the inflectional (in)compatibility between the languages in contact, and secondarily to extra-linguistic ones referring to the degree of language awareness. In the Greek-Turkish pair, the two languages may diverge in the way they built their inflectional structures -Turkish is agglutinative while Greek is fusional- but they both share a rich inflection with overt exponents. Therefore, once Turkish verbs are borrowed, the Greek speakers, who are fully aware of the compulsory presence of inflection in both the donor and the recipient, tend to inflect them by adopting a direct or an indirect strategy. The same pertains to the Griko case and the inflectionally rich Romance as far as verbs are concerned, when Romance serves as the donor language. On the contrary, since English is inflectionally poor, although genetically parent to Greek (both are Indo-European), Greek speakers in Canada opt to mark inflection on the Greek native light verb *kano*, being conscious of the significant distinctness of inflection in the two languages. In this way, they respect the Greek morphological tendency to explicitly inflect verbs and, by leaving the borrowed verb uninflected, they also obey the English property of not having an overtly realized inflection.

4.2. The other strategies

As already mentioned in section 2, the output form of loans integrated by indirect or direct insertion consists of an adopted part and a native part.

The adopted part can be:

- a stem, that is, the part of the word without the inflectional ending (see Pontic and Griko in (5-6));
- an entire inflected word which gets reanalyzed into a stem in order to receive Greek inflection (see Aivaliot/Lesbian (1,7), Cappadocian (2, 8), Cretan (3, 9), Cypriot (4, 10), Heptanesian (11));
- an affix, that is, *-DI* (Aivaliot/Lesbian (1), Cappadocian (2), Cretan (3, 9a), Cypriot (4a, 10a)), and *-ar(e)* (Aivaliot/Lesbian (7b), Cretan (9b), Cypriot (10b) and Heptanesian (11)).

The native part can be:

- a derivational affix, that is, *-iz-* in Aivaliot, Lebian, Cappadocian, Cretan and Cypriot, *-e(v)-* in Pontic and Griko and *-iaz-* in Cypriot;
- an inflectional affix (in all dialects from (1) to (11)).

Exploring first the examples of indirect insertion, such as those from (1) to (6), it is worth repeating that: (a) the source form may be either an infinitive or the third person singular of the past tense, and (b) the integrator originates from a common native verbalizer, which is taken from a range of competing verbal suffixes in Greek (see footnote 10 for details). In Aivaliot/Lesbian (1), Cappadocian (2), Cretan (3) and Cypriot (4a), Turkish third person singular forms of the past tense are accommodated with the suffix *-iz-*, while Cypriot (4b) accommodates those from French with the help of the verbalizer *-iaz-*; in contrast, Pontic (5) and Griko (6) select the verbalizer *-ev-* to adapt infinitives of Turkish and Italo-Romance origin, respectively. Therefore, two crucial questions arise:

- What makes certain forms to be more privileged than others?
- What prompts a particular affix to be endorsed as an integrating element?

I argue below that the adoption of specific foreign forms and the selection of native integrating elements are constrained by the recipient's endogenous morphological properties as well as by a certain structural and phonological compatibility between the systems in contact.

For methodological purposes, I will first examine the integration of Turkish verbs with or without the use of the integrator *-iz-*.

4.2.1 The *-iz-* integrator

As shown in 3.1.1, and further illustrated in (15), the Turkish loans originate from the third person singular of the past tense. Nonetheless, once transferred, the inflected types are reanalyzed as stems.

(15)a.	Aivaliot/Lesbian	Turkish PAST.3SG
	burd-iz-u 'to twist'	< burd-u
b.	Cappadocian	
	deld-iz-o 'to perforate'	< del-di
c.	Cretan	
	alikota-iz-o 'to stop'	< aliko-di

The reanalysis procedure authorizes the loans to combine with the Greek verbalizer *-iz-* and the proper verbal inflection in order to meet the requirements of native Greek morphology, according to which derivational suffixes are added to stems and all verbal forms carry overt inflection.¹⁴

First, a possible motivation for the adoption of Turkish past tense forms may be found in the key feature of Greek morphology to build deverbal derivatives on the basis of the perfective stem, which is usually called “aorist” stem and generally appears in both the aorist (past) and the perfective future paradigms.¹⁵ This is a diachronic tendency, pointed out by Hatzidakis (1905-1907) and repeated ever since (see, among others, Mackridge 1985: 106; Janse 2004: 477), which accounts for the formation of deverbal nouns starting from the Hellenistic period. I assume that molding a verbal loan with the help of a derivational suffix could also be considered as a kind of derivational process, something which would justify the adoption of the Turkish past form.

Second, it is a common assumption that the third person singular is generally the most frequent form in borrowing (see Matras 2009: 158). In addition, this is the only form of the Turkish past paradigm without an overt inflectional ending denoting the features of person and number.¹⁶ Therefore, compared to the other paradigmatic forms, it is the most unmarked and easiest to be reanalyzed as a stem.

Third, a certain degree of phonological similarity between the Turkish past tense forms and the Greek aorist (perfective) stem forms seems to determine the selection of *-iz-* from the repertoire of Greek verbalizers including *-ev-*, *-on-*, *-iaz-*.¹⁷ In fact, as shown in (16), both forms end in /I/.

(16)a.	Turkish	b. Greek
	sev-mek ‘to love’	xoriz-o ‘to separate’
PAST.3SG	sev-di ‘(s)he loved’	xori-se ¹⁸ ‘(s)he separated’

I would like to suggest that the outcome of this phonological similarity has triggered an analogy process in terms of Kuryłowicz (1949), which has contributed to the emergence of loanblend verbs in *-iz-*. Thus, it excluded the creation of those containing a different verbalizer, that is, *-ev-*, *-on-* *-iaz-* or *-en-*, whose past perfective (aorist) stems do not end in *-i*, as illustrated in (17).

(17)	<i>-iz-</i>	<i>-ev-</i>	<i>-on-</i>	<i>-iaz-</i>
3SG PRES	xor-iz-i	xor-ev-i	laδ-on-i	paramiθ-iaz-i
	‘(s)he separates’	‘(s)he dances’	‘(s)he oils’	‘(s)he tells stories/lies’
	<i>-en-</i>			
	anas-en-i			
	‘(s)he breaths’			
3SG AOR	xor-i(z)-se	xor-ep-se	laδ-o(n) se	paramiθ-ia(z)-se ¹⁹

¹⁴ Note that there is a fusion between the /I/ of the Turkish *-DI-* and the initial /i/ of *-iz-*, since the Modern Greek phonology does not allow double or long vowels. Moreover, sometimes, there is a certain difference in meaning between the word of the donor and the corresponding loan of the recipient.

¹⁵ See also Ralli (2012a) and Bağnaçık et al. (2015) for the same proposal.

¹⁶ Compare the past tense paradigmatic forms of the Turkish verb *sev-mek* ‘to love’: *sevdi-m* ‘I loved’, *sevdi-n* ‘you loved’, *sevdi* ‘(s)he loved’, *sevdi-k* ‘we loved’, *sevdi-niz* ‘you loved’, *sevdi-ler* ‘they loved’.

¹⁷ See also footnote 14.

¹⁸ [z] of *-iz-* is deleted in front of [s].

¹⁹ [n] and [z] of *-on-* and *-iaz-*, respectively, are deleted before [s], while [v] of *-ev-* is changed into [p].

‘(s)he separated’ ‘(s)he danced’ ‘(s)he oiled’ ‘(s)he told stories/lie(d)’

anas-an-e
‘(s)he breathed’

Nevertheless, it is worth stressing that, with the exception of *-en-* which generally selects Greek bases, these suffixes can serve as integrators for the formation of denominal verbs containing a Turkish nominal base. Consider the following Aivaliot/Lesbian examples, drawn from Ralli (2017):

(18) Aivaliot/Lesbian	Nominal loan	Turkish
xuzur-ev-u ‘to relax’	< xuzur ‘relaxation’	huzur
xaram-iz-u ‘to waste something’	< xaram ‘illegal’	haram
tsul-iaz-u ‘to stale’	< tsol ‘cloth of no value’	çul ‘type of cloth used for horses and donkeys’

These examples show that restrictions such as those mentioned above for the integration of foreign verbs do not apply to verbs built on the basis of foreign nominal words. I suppose that this different behavior between nouns and verbs is due to the fact that while source verbs are directly transferred to the target language - where they undergo integration – nominal items have already become part of the target’s vocabulary before serving as bases for verb formation. As a result, verb formation on the basis of nominal loans follows the rules of native Greek morphology. That is, similarly to Greek native nouns, nominal loans, can become verbs after being combined with a productively used denominal verbalizer, the choice of which is rather ad hoc, as is the case for the native Greek derivation.

4.2.2 Direct insertion of Turkish loans

Additional support to the hypothesis that the almost identical stem-final vowel in Greek and Turkish in the past perfective context had an impact on the form of verbal loans comes from the borrowing of Turkish verbs via the direct insertion strategy (7a, 8, 9a, 10a), that is, without the presence of a verbalizer. Structurally, these verbs differ from those subject to indirect insertion in two points: (a) they lack the verbalizer *-iz-* and (b) they inflect according to inflection class II (ICII), while those in *-iz-* belong to inflection class I (ICI). Note that for Greek native verbs, the basic difference between the two inflection classes lies on the presence of a systematic stem-allomorphy pattern $X(a) \sim Xi$, which defines ICII verbs, while its absence demarcates those of ICI (cf. Ralli 2005, 2006, 2009), as the following examples depict.

- (19)a. ICI anav-i ‘(s)he lights up’ versus anap-se ‘she lighted up’
b. ICII ayapa-i ‘(s)he loves’ versus ayapi-se ‘she loved’

However, the class difference exists only in the -perfective context, while it is neutralized in the +perfective one (e.g. in the aorist) as far as ICI verbs in *-iz-* are concerned, which appear to share an identical stem final vowel with those of ICII, as shown in (20).

- (20)a. 3SG PRES ICII verb *ayapa-i* ‘(s)he loves’ versus
 3SG AOR *ayapi-se* ‘she loved’
 b. 3SG PRES ICI verbs in *-iz-* *xoriz-i* ‘(s)he separates’ versus
 3SG AOR *xori-se* ‘(s)he separated’

Therefore, it should not be particularly surprising that the accommodation of verbs borrowed from Turkish could occur not only by indirect insertion (with the help of the verbalizer *-iz-*), but also via the direct one, that is, with no verbalizer, since both strategies employ a more or less similar verbal type, the third person singular of the past tense ending in /I/. In fact, in almost all dialects, and in all grammatical contexts and communicative situations, there are Turkish verbal loans displaying two alternating types with no difference in meaning:

- | | | |
|-------------------------|----------------|------------------|
| (21)a. Aivaliot/Lesbian | | Turkish 3SG PAST |
| axtard-iz-u / axtard-o | ‘to overthrow’ | < axtardı |
| b. Cretan | | |
| dajad-iz-o / dajad-o | ‘to resist’ | < dajadı |
| c. Cypriot | | |
| avlat-iz-o / avlat-o | ‘to hunt’ | < avladı |

4.2.3 The *-ev-* integrator

By looking at Pontic and Griko now, and contrary to the dialects which adopt *-iz-* as an integrating element, one realizes that, in these varieties, the integrator is not *-iz-*, but *-ev-*, another Greek derivational suffix. This variation from one Greek variety to another cannot be due to the different type of donor, since Pontic and Griko employ the same integrator in order to accommodate their loans, in spite of the fact that Pontic borrows verbs from Turkish and Griko from Italo-Romance. I would like to suggest that it relates to properties inherent to the recipient system, such as the degree of productivity of verb-forming operations, as well as to the socio-linguistic conservatism displayed by the speakers of these dialects.

First, as attested in dictionaries (e.g. Karanastasis 1997 and Rohlfs 1933 for Griko and Papadopoulos 1955 for Pontic), the formation of native verbs with *-ev-*²⁰ is particularly productive in both Griko and Pontic, more than that with *-iz-* which prevails in the other dialects. This may be due to the fact that, compared to the other varieties, Pontic and Griko show a conservative character, preserving a considerable number of Ancient Greek features (see, for instance, works by Manolassou and Pantelidis 2011 for Pontic and by Rohlfs 1997, Caratzas 1958 and Karanastasis 1997 for Griko). *-ev-* derivation belongs to these features since it was a very productive process in Classical Greek (5th–4th c. BC), as stated by Chantraine (1945: 244). Therefore, there is good reason to believe that Griko and Pontic have followed a parallel development into adapting verbal loans in their systems, by using as integrator the more archaic, but still frequent, derivational suffix *-ev-*, while the other varieties employ the relatively recent productive *-iz-* verbalizer (Browning 1969).

I further suggest that the presence of *-ev-* sheds light on the selection of the bare stem loans in Griko and Pontic, because verb stems in *-ev-* do not display any phonological similarity with Turkish and Italo-Romance stems, as far as the final vowel of the third person singular of the past tense is concerned:

²⁰ About the /v/ deletion, see footnote 9.

(22) Pontic		Turkish
krem-iz-o	‘to throw’	yık-mak
ekremp-se	‘(s)he threw’	yık-tı
(23) Griko		Italo-Romance (Salentino)
kunt-e(v)-o	‘to count’	kunt-are
kunt-et-se ²¹	‘(s)he counted’	kunta-u or kkunta-tu/e

To conclude, productivity can ascribe a verbalizer to the category of those assuming the function of integrating element. In addition, a possible dissimilarity between the final vowel of Turkish and Greek stems is likely to serve as a barrier for the activation of the native Greek mechanism which produces deverbal forms on the basis of the past perfective stem. I should also stress that the Pontic and Griko cases advocate the significant role that the stem constituent has in Greek morphology, as base for word-formation purposes.

4.2.4 The *-iaz-* integrator

The adoption of Romance loans in Cypriot is particularly intriguing: on the one hand, Cypriot has borrowed verbs from Italo-Romance (Venetian) by using the direct insertion strategy (10b), as depicted in section 3.2.2. On the other hand, borrowing a different type of Romance verbs, that is, those from Gallo-romance, has been achieved with the help of an integrating element, the verbalizer *-iaz-*, attached to the third person singular form of the simple past tense (4b). I would like to propose that this peculiar situation is due to the interplay of linguistic and socio-linguistic factors. First, although true that *-iz-* has become the most productive Greek verbalizer in the last centuries (Browning 1969), verbal derivation in *-iaz-* was particularly productive in Medieval Cyprus, as stated by Hatzidakis (1905: 305). Since high productivity has already been proposed to constitute a decisive factor for the selection of an integrating element among a number of competing affixes (see section 4.2.3), it is not surprising that, during the Lusignan rule (from 12th to 15th c.), Cypriot accommodates French verbs with the use of *-iaz-*. However, in the subsequent period (15th – 16th c.), Italo-Romance verbs entered the Cypriot vocabulary via the direct insertion strategy, that is, by preserving the infinitival form and receiving only the Greek inflectional ending. I believe that the different behavior of Romance verb integration in Cypriot should be searched in the different socio-linguistic context. According to Dendias (1923: 157), during the French regime in Cyprus, there was a revival of the Greek culture, and the Greek language was taught at schools. As a consequence, when borrowing occurred, loan words were heavily hellenicized by the Cypriot speakers, who could reanalyze the French words into stems and combine them with the Greek integrating suffix *-iaz-* and ultimately with the Greek inflectional ending. In contrast, during the Venetian period, schools were closed and educational deficiency led the speakers to borrow the Venetian infinitives without proceeding to further reanalysis.

That the socio-linguistic context is critical for the adoption of a specific strategy in loan verb accommodation gets further support by the fact that, even during the French rule and because of a flourishing trade with Venice, Venetian verbs had also entered the Cypriot vocabulary as verbs in *-iaz-*. The example *siγur-iaz-o* ‘to make sure’

²¹ [v] has become [t] in front of [s].

(Venetian *sicurar*), provided by Hatzidakis (1905: 304), adds substantial proof to this suggestion.

4.2.5 Absence of integrator in Italo-Romance loans

Another interesting divergence regarding verbal loan integration, irrespectively of the particular donor, is witnessed between Griko and the other Greek varieties which have adopted Italo-Romance verbs, that is, Aivaliot, Lesbian, Cretan, Cypriot and Heptanesian: their speakers follow a different path, as depicted in (7b), (9b), (10b) and (11), where the infinitival word as a whole, that is, both the stem and the ending (*-ar(e)*, *-er(e)*, *-ir(e)*)²², is retained.

In order to interpret this discrepancy, and in accordance with Ralli (2012b), I would like to evoke again the vital contribution of socio-linguistic factors, suggesting that intense contact can explain not only heavy borrowing, as pointed out in Thomason and Kaufman's (1988: 67) seminal work, but also a possible resistance to it. I believe that the Griko speakers, who had and have high competence skills in Italo-Romance (Salentino and Standard Italian), have tried to restrict heavy borrowing by hellenicizing Italo-Romance verbs as much as possible with the help of a verbalizer, the very productively used derivational suffix *-ev-*. Being well aware of the Italian *-are*, *-ere*, *-ire* as infinitival markers, they subtracted inflection from the verb and replaced it with the Greek suffix. In contrast, speakers of Aivaliot, Lesbian, Cretan, Cypriot and Heptanesian, who had either a low command of Italo-Romance or no command at all during the Venetian or Genovese regime, did not seem to have any difficulties into importing the infinitive as a whole, and hellenicizing it with the addition of the appropriate inflectional endings. In other words, I propose that in a language-contact situation, high bilingualism and language awareness may trigger, but also forbid the amount and type of transferred material, along the lines of Enrique-Arias (2010: 97) who has reached to a more or less similar conclusion for a contact situation, involving Spanish and Catalan in Majorca.

Note now that following a different path, I could assume that Griko speakers structurally analyze the verbal types and select to borrow stems, instead of word forms, because of the endogenous linguistic properties of the donor language:²³ it has been mentioned in several works (e.g. Calabrese 1993; Ledgeway 1998) that Southern Italian dialects, among which Salentino, do not display an extensive use of infinitives, as the example in (28) clearly depicts.

- (24) Salentino: lu Karlu ole ku bbene krai
lit. Il Carlo vuole che viene domani
'Carlo wants to come tomorrow'

Therefore, limited access to infinitival forms might have led the Griko speakers to borrow Italo-Romance stems. In the same spirit, frequent access to Venetian infinitives made the Greek speakers of the other dialects to borrow and hellenicize the entire infinitival words, since contrary to Southern Italian dialects, Venetian, like other Northern Italian dialects, has preserved the infinitival forms.

Although promising, this hypothesis seems to fade by evidence drawn from the incorporation of Turkish verbs in Pontic (5), where, in spite of the fact that infinitives

²² The final /e/ of the Italo-Romance infinitival marker does not appear in Venetian verbs. See footnote 11.

²³ I am indebted to Franco Fanciullo for this suggestion.

are frequently used in Turkish, the dialectal speakers choose to adopt bare stems. For an illustration, consider the following examples consisting of a Turkish stem, the Greek-based integrator *-ev-* and the Greek inflectional ending:

(25)	Pontic		Turkish infinitive
	γazan- <i>ev-</i> o	<	kazan-mak
	‘to earn’		‘to earn, profit’
	axtar- <i>ev-</i> o	<	aktar-mak
	‘to overturn’		‘to relocate/transfer’
	pašla- <i>ev-</i> o	<	başla-mak
	‘to begin’		‘to begin’

I suppose that the same resistance towards Turkish by the socio-linguistically conservative Pontic speakers has made them to analyze the verb types, leading to rejection of the inflectional material and retention of only the Turkish stem. Nonetheless, for the Griko case, I would be tempted to assume that the absence of infinitival forms in Salentino may have served as additional support for the analysis of borrowed verbs and the adoption of the bare stem.

4.2.6 *-ern-* in Aivaliot, Lesbian and Cretan

As shown in section 4.2.3, the prevalence of stem as a word-formation base in Greek morphology finds its absolute confirmation in Pontic (5) and Griko (6), where loan verbs are internally analyzed and only stems are retained. It is further substantiated by the dialectal data of Aivaliot/Lesbian (7b) and Cretan (9b) (occasionally by Cypriot data too), where the infinitival Italo-Romance loans are not simply reanalyzed as stems, as is the case with the other dialects affected by Venetian, but the *-ar-/-er/-ir* forms appear altered into *-ern-* ones containing a formative *-n-* and a change of the vowel /a/ into /e/.

It should be mentioned that, in the early middle ages (ca 6th-12th c.), the insertion of *-n-* between the *-perfective* (usually called “present”) stem ending in *-o-* and the inflectional ending had become a very productive process in Greek (Browning 1969); it assisted the Ancient Greek contract verbs in *-oo-*: to transform their *+perfective* stem into *-on-*, and change conjugation by shifting from ICII to ICI:

(26)	Ancient Greek δῆλό-ō (ICII)	→	SMG διλόν-o (ICI)
	declare-PRES.1SG		
	‘I declare’		

Browning (1969: 70) also states that the productivity rate of *-n-* had increased around the 12th century, to such an extent that *-n-* was responsible for the reformulation of many native imperfective stems on the basis of the aorist ones (stems used in the perfective context). Thus, assuming that, in the dialects under examination, the adopted Italo-Romance infinitives were first reanalyzed as *+perfective* stems (so as to be combined with the appropriate inflectional endings), it would be reasonable to suppose that, during the 14th and 15th centuries, they were reshaped into *-ern-* ones, in order to be used in the *-perfective* contexts. In fact, nowadays, in both Lesbian and Cretan, Italo-Romance verbal loans preserve their original form in *-ar-* in the *+perfective* context (e.g. in the aorist), while the *-ern-* form appears in the *-perfective* context (e.g. in the

present tense).²⁴ Furthermore, according to Hatzidakis (1905: 287-288), analogy must have also contributed to the final shaping of the *-ern-* form. For him, the appearance of [e] before the consonant cluster [rn] was triggered analogically to Greek native verbs in *-ern-*, like *δερνο* ‘to beat’ or *φερνο* ‘to bring’, the form of which was *dero:* and *phero:* in Ancient Greek.

It is of major importance to specify that, in the medieval period or even before, *-n-* did not have the status of a derivational suffix, since it did not fulfill the basic criteria of such a functional element. For instance, contrary to other verbal suffixes (e.g. *-ev-*, *-iz-*), it was not used to build new items (items belonging to a new grammatical category). Therefore, *-n-* of *-ern-* forms should be considered as a simple formative, which served to create new stem allomorphs, that is, allomorphs to be used in the -perfective context, on the basis of stem forms utilized in the +perfective one.

Being a simple formative, *-n-* cannot be a true integrating element, at least like the verbalizers *-iz-*, *-ev-*, and *-iaz-* which appear in verbal loans accommodated by indirect insertion. Substantial proof to this suggestion comes from the fact that in Aivaliot/Lesbian (7b), as well as in Cretan (9b), *-n-* is confined to specific stem allomorphs, that is, to those of the -perfective paradigms of present tense, imperfect and imperfective future. For an illustration, consider the following verbal types of the Aivaliot/Lesbian loan verb *saltérnu* ‘to jump’, where, for clarity reasons, a hyphen separates the borrowed stem from the Greek inflectional ending:

(27)	Present	Imperfect	Imperfective future
	1SG saltérn-u	sáltirn-a ²⁵	θa saltérn-u
	1PL saltérn-umi	saltérn-ami	θa saltérn-umi

In contrast, *-n-* is absent from the aorist and perfective future paradigms, which are built on the +perfective stem.

(28)	Aorist	Perfective future
	1SG saltár(i)-sa	θa saltár-u
	1PL saltár-ami	θa saltár-umi

5. Conclusions

In this paper, I have tackled several issues concerning variation in verb borrowing, such as the interplay of system-internal and system-external factors, the role of structural compatibility between the donor and the recipient languages, the determining factors for choosing a particular integration strategy and/or pattern, the resolution of competing affixes regarding the selection of integrating elements. I have shown that the integration of verbal loans is more complex than what one could think of, and depends on several factors and constraints, both linguistic and socio-linguistic. More particularly, the borrowing and integration of verbs in the Greek varieties which have entered in contact with Turkish and Romance are contingent upon the following parameters:

- (a) the native morphological properties of the recipient language, that is, the stem-based word formation property in Greek, the perfective (aorist) stem to operate as the base for derivative purposes and the degree of suffixal productivity which

²⁴ In certain dialects, e.g. in Aivaliot/Lesbian, and analogically to native forms, the aorist *-ar-* is further developed into *-ari-* in the singular number. Note, however, that [i] may be deleted because of the high-vowel deletion in unstressed position.

(iii) Aivaliot/Lesbian 1SG AOR: Loan saltár(i)sa native xár(i)sa
‘I jumped’ ‘I gave/donated’

²⁵ *sáltirna* derives from *sálterna*, since unstressed [e] becomes [i]. Compare also *sáltirna* with *saltérnami*.

- contributes to the selection of a specific integrator among several competing suffixes;
- (b) a certain structural compatibility between the systems in contact, which sometimes overrides genetic parenthood;
 - (c) a certain phonological matching between the transferred elements and equivalent native ones, which may determine the form of integrating elements;
 - (d) the degree of contact, the education rate, and the speakers' socio-linguistic attitude towards the donor language, which may facilitate, but also limit transfer of foreign material.

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