

Turkish loanwords and loanblends in Cretan dialect: strategies and patterns

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Abstract

The aim of the present paper is to investigate how Turkish open-class words (nouns, verbs, adjectives, adverbs) are accommodated in the Cretan dialect, a major Greek dialect, which belongs to a different typology from the donor language. According to Ralli (2012a, 2012b, 2016), it is possible for a language to be affected by a linguistic system of a distinct typology provided that certain morphological conditions are met. In our case, the Cretan dialect is fusional, like Greek, while Turkish is agglutinative. The present study covers a variety of issues such as: a) the morphological strategies adopted by the Cretan dialect for integrating loan words of different grammatical categories into its morphology, b) the determining factors for choosing a particular integration strategy, c) the role of structural compatibility between Cretan and Turkish language and d) the nature of the integrating elements. I argue that the accommodation of loan words is not only subject to extralinguistic factors (Thomason, 2001, Matras 2009) but also follows language specific constraints. The data are drawn from a corpus containing 1,624 loan words, most of which come from traditional dictionaries of the dialect (Pangalos [1955] 2000, Orfanos 2014 etc.).

Keywords: Cretan dialect, language contact, loan words, direct insertion, indirect insertion, borrowing constraints

1. Introduction

The present study is concerned with the ways that open-class words are incorporated in Cretan from a language of different typology, that is Turkish. In specific, I focus my attention on the intralinguistic factors that affect the end result of the borrowing process. This paper is divided into five main sections. After the introduction, there is a presentation of the theoretical background and the socio-historical context in which language contact between Turkish and Cretan took place (section 2 and 3). Section 4 investigates the morphological strategies of loanword integration and compares their application across items of different grammatical category. In section 5, I study the properties of the integrators which are used in borrowing process, and I compare the process of borrowing with that of derivation. I conclude my paper with a summary of the main issues dealt with and the relevant bibliography.

2. Theoretical background

Language contact was established as a new research field in the mid-20th century mainly through the works of Bloomfield (1933), Haugen (1950) and Weinreich (1953). These studies focused on lexical borrowing as it was the most frequent kind of borrowing in the languages of the world. Studies that focused on the principles and constraints of

language contact appeared in the late 20th century (see, among other, Moravcsik 1978, Muysken 1981, Appel and Muysken 1987, Thomason and Kaufman 1988). Since then, language contact has remained one of the most popular research fields of Linguistics, and it has drawn attention to many linguists (see, among other, Thomason 2001, Field 2002, Matras 2007, Haspelmath 2008, Wohlgemuth 2009, and Ralli 2012a, 2012b, 2016 for Greek).

Thomason and Kaufman (1988: 37) define borrowing as a process of incorporation of foreign features into a group's native language by speakers of that language. The native language is maintained but is changed by the addition of the incorporated features. As noted by Thomason (2001), language contact is an unavoidable situation which occurs when two language systems are in contact with each other.

Haspelmath (2008: 4-5) uses the terms *recipient language* for the language that acquires a loanword and *donor language* for the language that is the source of the loanword. Haugen (1950) divides loan elements into three types: *loanwords* (form and meaning are copied one by one), *loanblends* (words consisting of a copied part and a native part) and *loanshifts* (only the meaning is copied). In this paper, I will focus on the cases of loanwords and loanblends.

Wichmann & Wohlgemuth (2008) and Wohlgemuth (2009) introduce the terms *direct insertion* and *indirect insertion*. Direct insertion corresponds to Haugen's (1950) term of *importation*, that is the case of loanwords, in which, the loan item undergoes only slight phonological modification before being introduced in the recipient language. On the other hand, indirect insertion corresponds to Haugen's (1950) term of *substitution*, that is the case of loanblends, in which a foreign element is mixed with a native part which is used as integrator. Wichmann and Wohlgemuth (2008) and Wohlgemuth (2009) use the terms of direct and indirect insertion to study the loan verb accommodation strategies. My data suggest that these two notions might also extend on the cases of noun, adjective and adverb integration, as Greek is a morphologically rich language and, thus, as already noted by Ralli (2016), it shows a big range of competing affixes which behave as possible integrators.

3. The Socio-historical context

In human history language contact occurred to a large extent as a result of wars, colonialism, slavery, migration, and trade. According to several Western European historians, as mentioned in Detorakis (1990), the war between the Venetians who occupied Crete for nearly four centuries (1211 – 1669), and the Turks began from a war event that took place between the territorial waters of Crete and Rhodes. In 1644, the Knights Hospitaller, who used the island of Malta as an operation base, captured a Turkish ship off the coast of Crete that carried pilgrims to Mecca and transferred the treasures to the Venetian general in Chania. As a result, the Ottomans organized war operations against Venice and occupied Chania in 1645 and Rethymno in 1646. The siege of Candia¹ lasted from 1648 to 1669 and it is considered the longest siege in human history. After 22 years of siege, the Venetians lost the control of the capital Candia. During the Ottoman–Venetian War of 1714–1718 the last Venetian fortresses of Gramvousa, Souda and Spinalonga were also surrendered to the Ottoman Empire.

¹ Chandax was the former name of modern Heraklion.

According to Detorakis (1990), the Ottoman rule is divided into 2 periods: (a) 1669-1830 and (b) 1840-1898². As a result of the war, many Cretans fled to other regions of Venice and the population of the island significantly reduced. The economy of the island suffered from heavy taxation, poor living conditions and migration. The spectacular development of literature, painting and other arts during the Venetian era which occurred due to cultural contact of Crete with the Western Renaissance, was interrupted brusquely when Crete ceded to Ottomans.

During the 18th century, education was limited as there were no schools in operation. Only the monasteries of the island could offer basic education to the local population. At the end of the 18th century, the Turkish population of Crete was significantly increased (Detorakis 1990). In specific, total population of the island reached 350,000 of whom 200,000 were Greek and 150,000 Turks. Many Christians changed religion and embraced Islam (Turkocretans). According to Hayden (2004), the Turks of Crete were mostly not of Turkish origin, but were Cretan converts from Orthodoxy who were native speakers of the Cretan dialect and were taught Turkish as a second language. In 1923, Greece and Turkey signed the Treaty of Lausanne, a peace treaty which laid down provisions for the exchange of populations between the two nations. The Turkish population (33,000 inhabitants) left the island and moved to Turkey while 33,900 Christian refugees from Asia Minor were dispatched to Crete. It is notable that there are many suburbs and villages around Heraklion, where the residents are descendants of refugees from Asia Minor (New Alatsata, New Halicarnassus, New Klazomenes, etc.).

4. Integration strategies of loan words

According to many linguists (see, among other, Thomason 2001, Matras 2009), borrowability is affected by the intensity of contact between two language systems and the degree of bilingualism among the speakers of the affected community. Cretan speakers had been exposed to an intense contact with Turkish for about two centuries (1669-1896) and it is an undeniable fact that the bilingual environment played an important role on the borrowing process.

Along the lines of Weinreich (1953) and Ralli (2012a, 2012b, 2016), I suggest that the structural properties of the donor and recipient language are crucial for the outcome of the borrowing process. Language contact between two languages which display structural diversity and belong to different typological systems is possible, provided that there is a degree of structural/morphological compatibility between them.

4.1 Scales of borrowability in Cretan Greek

In this section, I will briefly present the borrowability scales of Cretan dialect. The term *borrowability scale* was introduced in linguistic theory to investigate which grammatical categories/elements were easier to be integrated from a language system X to a language system Y (see, among other, Whitney 1881, Haugen 1950, Muysken

² During the 1830-1840 period, Crete was yielded to the Egyptian commander Mehmet Ali Pasha as an exchange for his services to the Ottoman Empire (London Protocol of 1830). Crete was returned to the Ottoman Empire by the Convention of London on July 3, 1840.

1981, Thomason and Kaufman 1988, Field 2002). Some of the most well-known borrowability scales, that have been proposed so far, are the following:

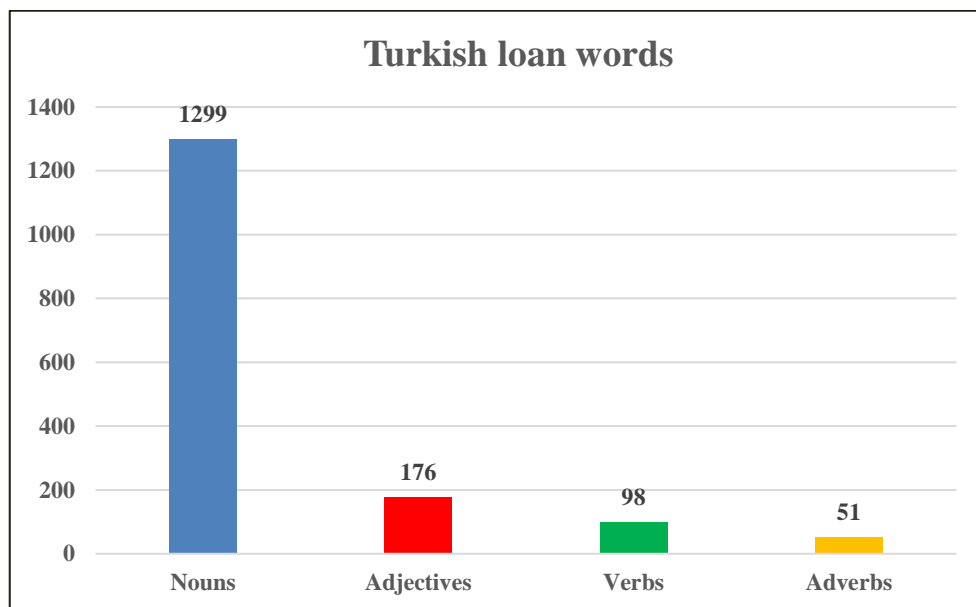
- (i) nouns > other parts of speech > suffixes > inflection > sounds
Whitney (1881)
- (ii) nouns > verbs > adjectives > adverbs, prepositions, interjections
Haugen (1950)
- (iii) nouns > adjectives > verbs > prepositions
Singh (1981)
- (iv) nouns > adjectives > verbs > prepositions > coordinating conjunctions > quantifiers > determiners > free pronouns > clitic pronouns > subordinating conjunctions
Muysken (1981)

The above hierarchies suggest that lexical items are more likely to be borrowed than grammatical items. Many linguists agree that items which show structural dependency are less borrowable than items that display structural autonomy (see, among other, Haugen 1950, Appel and Muysken 1987, Thomason and Kaufman 1988, Matras 1998).

As far as the lexical items are concerned, nouns seem to be the most borrowable grammatical category universally. According to Appel and Muysken (1987), grammatical categories that have a crucial role on the organization of a sentence (verbs for example), are less likely to be borrowed than others (nouns etc.). Furthermore, nouns display referential stability as opposed to verbs which display referential vagueness (Matras 1998).

The first statistical data for Cretan has been presented by Chairetakis (2012). The author, based on 500 loan words, proposes a borrowability scale in which nouns are placed first, verbs second, adjectives third and adverbs fourth. After the examination of a larger corpus (1624 loan words), I provide the following borrowability scale for Cretan:

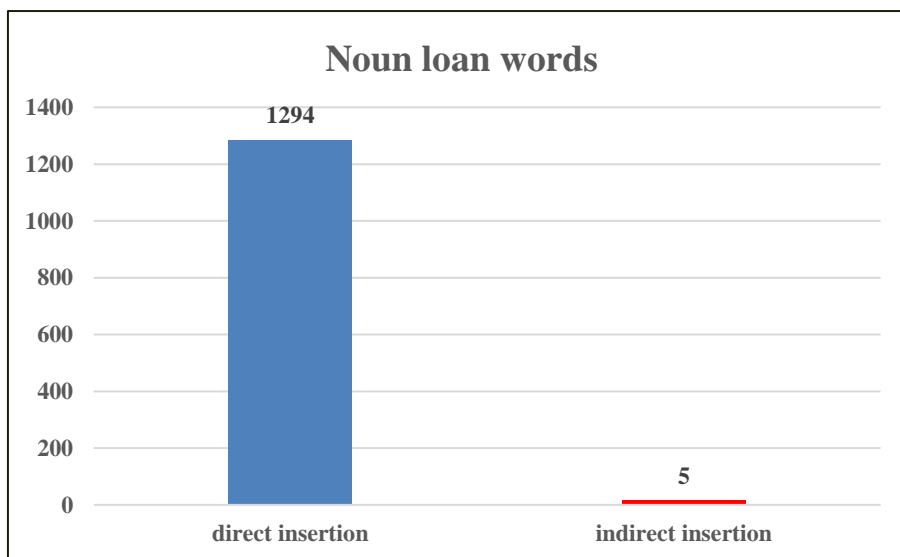
- (i) nouns > adjectives > verbs > adverbs



Picture 1: Statistical chart of Turkish loan words in Cretan

4.2 Noun integration

Nouns are the most borrowable grammatical category and comprise the 79,99% of the total sample of loan words. Cretan uses two main strategies for integrating nouns from Turkish, these are direct and indirect insertion.



Picture 2: Statistical chart of noun accommodation strategies

4.2.1 Noun integration by direct insertion

Direct insertion is the most common strategy of noun accommodation. Nouns, once adopted, assume inflectional suffixes (1a-d) or, less frequently, they remain uninflected (2a-b).

(1)	Loan	Turkish form
a.	mukava-s 'inflexible carton'	mukavva
b.	fetufadzi-s 'Mufti, Turkish rank'	fetvacı
c.	kum-os 'animal shed'	kümes
d.	tserez(i)-Ø 'dessert'	çerez
(2)	Loan	Turkish form
a.	pusu 'ambush'	pusu
b.	tastik 'confirmation'	tasdik

As noted by Wohlgemuth (2009), the insertion of an inflectional suffix is not considered as an indirect integration strategy, if its presence is obligatory in the recipient system, as in Greek and its dialects (also noted by Ralli 2016). With the addition of the inflectional suffix *-s*, examples in 1a and 1b are fully inflected according to the inflectional pattern of IC2, while inflectional suffixes *-os* (1c) and *-Ø* (1d) are marked for IC4 and IC5 respectively³.

Loans may undergo phonological modifications, if the phonotactic properties of the donor language are not compatible with those of the recipient language. Turkish noun *fetvacı* is incorporated to Cretan with the form *fetufadzis*. As the consonant cluster of /t/ + /v/ is not acceptable by the phonological system of the dialect, the insertion of /u/ converts the syllable structure from CC to CVC.

4.2.2 Noun integration by indirect insertion

In cases of indirect insertion, a Greek derivational suffix is used as an integrator. Consider the following examples:

(3)	Loan	Turkish form
a.	lelek-ia 'lilac'	leylak
b.	musub-ia 'calamity'	musabe

³ See Chairetakis (forthcoming) for a description of the inflectional classes of Cretan.

- c. *dağlar-as* *dağlar*
 'tall person'

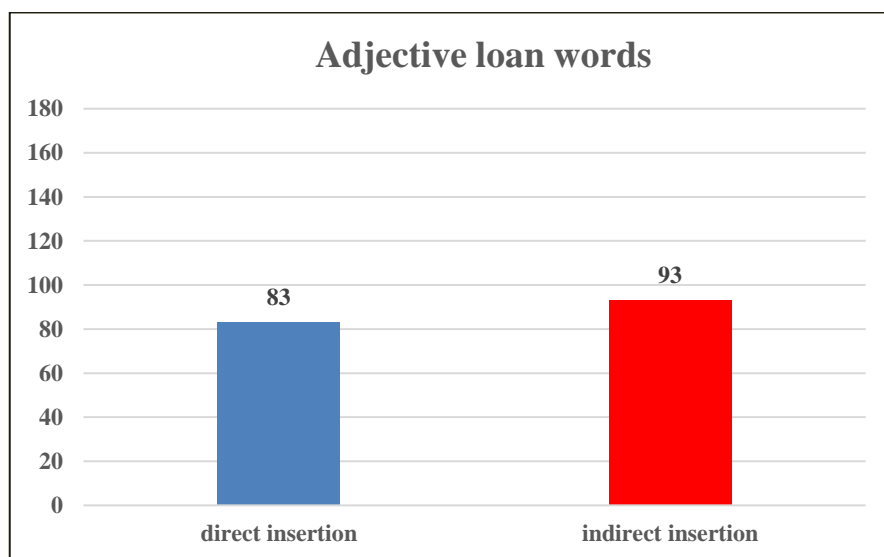
Turkish loans *leylak* and *musabe* are accommodated to Cretan with the use of integrator *-ia*. The selection of the specific suffix for the integration of these loans is not coincidental. Since the medieval period, *-ia* has given rise to the derivation of words that indicate abstract concepts (*elefther-ia* 'freedom' < *elefther(os)* 'free') or tree/plant names (*mil-ia* 'apple tree' < *mil(o)* 'apple').

Loan noun *dağlaras* has been formed from the combination of the noun *dağlar* (plural form of Turkish *dağ*) and the Greek suffix *-a(s)*. The Turkish inflectional suffix *-lar*, has been reanalyzed as a part of the stem, as it is not functionable and compatible with the Greek available inflectional patterns. In this case, *-a(s)* is also not randomly selected for the accommodation of the loan noun *dağlar*. According to Orfanos (2014), *dağ* has a literal meaning 'mountain' but also, a metaphorical one 'tall person' (for example, *dağlar kadar* 'like mountains'). In both cases, the noun *dağ* expresses 'something that is big or bigger than normal'. These meanings triggered the combination of the base *dağlar* with the Greek suffix *-a(s)*, which, in Greek, is used as an evaluative morpheme denoting 'someone who is big or bigger than normal'.

Examples illustrated in (3), show that the combination of a Greek integrator with a Turkish noun base, is not free but is subject to semantic constraints or selectional restrictions. Further discussion will be held in section 5 of this paper.

4.3 Adjective integration

Adjectives are the second most borrowable grammatical category. Like nouns, the incorporation of loan adjectives from Turkish takes place by direct and indirect insertion.



Picture 3: Statistical chart of adjective accommodation strategies

4.3.1 Adjective integration by direct insertion

As far as direct insertion is concerned, adjectives are either incorporated to the dialect's inflectional system (4a-c) or remain uninflected (5a-c).

(4)	Loan	Turkish form
a.	kior-os 'cross-eyed'	kör
b.	tzitzin-os 'pretty'	çiçin
c.	kaimakli-s 'with clotted cream'	kaymaklı
(5)	Loan	Turkish form
a.	kotza(m) 'huge'	kocam
b.	beli 'obvious'	belli
c.	yelatzi 'fake'	yalancı

Nouns and adjectives in Cretan, as in Standard Greek, share the same inflectional suffixes. Examples 4a and 4b are fully inflected according the inflectional pattern of IC1, while example 4c adopts the inflectional pattern of IC2. A small number of adjectives, like those which are shown in (5), are uninflected and the same form, depending on the case, may express the full range of morphosyntactic features of the lexeme.

In some cases, foreign adjectives which consist of a base and a derivational suffix may also be accommodated, as for instance, Turkish derivatives ending in *-li* (see 4c). The derivation of the morphologically complex word *kaymaklı* has taken place in Turkish, before transferred in Cretan, with the combination of the stem *kaymak* and the derivational suffix *-li*.

4.3.2 Adjective integration by indirect insertion

Adjective accommodation by indirect insertion is quite common and comprises the 52,84% of the total number of loan adjectives. This process is facilitated by a small number of integrators which originate from derivational suffixes. These integrating elements are, *-i(s)*, *-ik(os)*, *-idik(os)*, *-eni(os)* and *-i(os)*. Consider the following examples:

(6)	Loan	Turkish form
a.	marabut-i(s) 'frugal'	marabut
b.	sersem-i(s) 'foolish'	sersem

- | | | |
|------|--------------------------------------|--------------|
| (7) | Loan | Turkish form |
| a. | kapanik-ik(os)
'closed' | kapanık |
| b. | kit-ik(os)
'scant' | kıt |
| (8) | Loan | Turkish form |
| a. | gret-idik(os)
'temporary' | iğreti |
| b. | kapakl-idik(os)
'covered' | kapaklı |
| (9) | Loan | Turkish form |
| | turudz-eni(os)
'of orange colour' | turuncu |
| (10) | Loan | Turkish form |
| | asil-i(os)
'authentic' | asil |

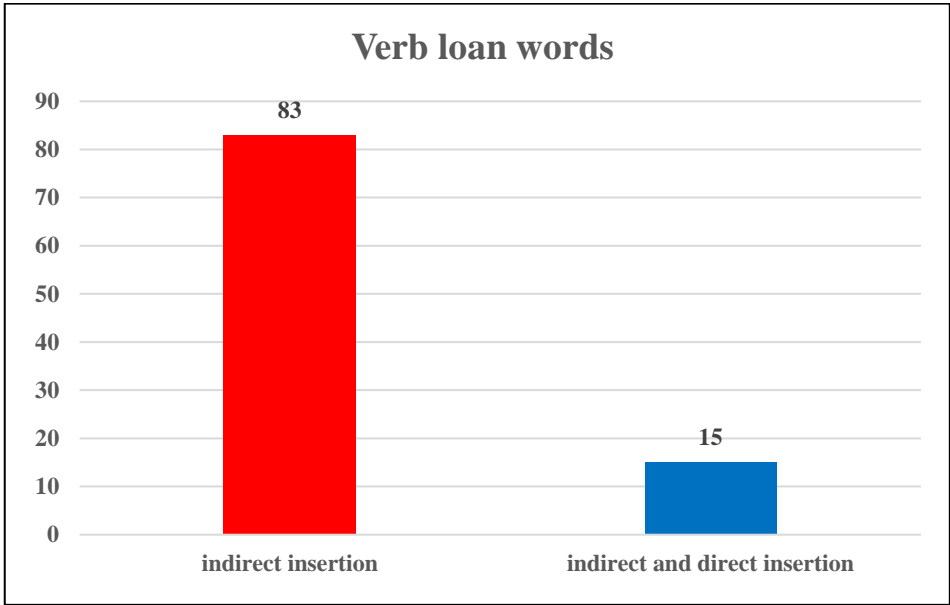
The accommodation of adjectives is mainly carried out by the integrating elements *-i(s)*, *-ik(os)* and *-idik(os)* (39, 20 and 15 loans respectively). The combination of these elements with a stem of Turkish origin is subject to phonological restrictions. The elements *-i(s)* and *-ik(os)* are combined with stems ending in consonant (see examples 6a, 6b, 7a, 7b). On the other hand, the integrating suffix *-idik(os)* is mainly combined with stems ending in /i/ (see 8a, 8b). The appearance of *-idik(os)* is triggered by the phonological similarity of the integrator's initial vowel with that of the Turkish stem's ending vowel, which is /i/.

Integrators *-eni(os)* and *-i(os)* are almost absent from the collected data. Unlike *-i(s)*, *-ik(os)* and *-idik(os)*, suffix *-eni(os)* presents semantic constraints in both native derivation and integration of foreign stems. In native derivation, it is combined with Greek stems denoting material (*asim-eni(os)* < *asimi* 'silver') or color (*smaragd-eni(os)* < *smaragdi* 'emerald green'), unlike suffixes in (6), (7) and (8) which denote a general attribute. Loan adjective *turudz-eni(os)* in (9) consists of the Turkish stem *turuncu* 'orange' and the Greek integrator *-eni(os)*. In (10), loan adjective *asili(os)* does not seem to have been derived by a regular morphological adaptation strategy. Suffix *-i(os)* is quite unproductive in Greek and its dialects as it is mostly combined with learned items of Ancient Greek origin (*opisth-ios* < *opisthen* 'rear')⁴. Loan word *asil-i(os)* has been possibly formed analogically to its equivalent in meaning adjective in Greek which is *gnis-i(os)* 'authentic'.

⁴ For more details, see Ralli (2005).

4.4 Verb integration

Verb integration is based on two adaptation strategies, which are: a) indirect integration, and b) a mixed strategy in which direct and indirect integration occur simultaneously. Below, I present the statistical distribution of these integration strategies, which is based on 98 loan verbs.



Picture 4: Statistical chart of verb accommodation strategies

4.4.1 Verb integration by indirect insertion

Purely indirect insertion is the most prominent strategy in verb accommodation, and it comprises the 84,69% of the total sample of loan verbs. Loan verbs are formed with the combination of a native part, that is a verbalizer, and a verbal stem of Turkish origin. These verbalizers are *-iz(o)* (71 loans) and *-ev(g)(o)*⁵ (12 loans). Consider the following examples:

- | (11) | Loan | Turkish form |
|------|-----------------------------|-------------------------|
| a. | dald-iz(o)
‘breeze into’ | daldi(m) (< dalmak) |
| b. | sikild-iz(o)
‘be upset’ | sıkıldı(m) (< sıkılmak) |

⁵ As shown by Chairetakis (forthcoming), /γ/ is a marker which distinguishes two elements of different morphological category, in our case, the derivational suffix *-ev* from the inflectional suffix *-o*.

- | | | |
|------|---|--------------|
| (12) | Loan | Turkish form |
| a. | kon-evg(o)
'reside temporally' | kon-mak |
| b. | tsalist-evg(o)
'attempt, take care of' | çalış-mak |

As shown in (11), the *-iz(o)* integrator is combined with Turkish past tense stems. The integration process is carried out according to the following steps:

- (i) Adaptation of the third person singular of the past tense Turkish form: According to Matras (2009), the third person singular form serves as the most frequent base in borrowing universally. Moreover, Ralli (2016: 92) points out that the lack of an overt inflectional suffix of the Turkish past paradigm in third person singular plays a supporting role as it is the simplest way for the Turkish paradigmatic form to be reanalyzed as a stem.
- (ii) Reanalysis of the *-di-* element: The *-di-* element which functions as a past tense marker in Turkish (see Ralli 2012b, Chairetakis 2012, Ralli 2016) is reanalyzed as a part of the stem as it is not functionable in the inflectional system of the recipient language. As a result of the reanalysis, this element has lost its morphosyntactic values and it appears in Cretan as an opaque part of the stem which can be detected in the whole inflectional paradigm of the adopted verbs.
- (iii) Combination with *-iz(o)* integrator: The integrator *-iz(o)* is selected among a wide range of possible suffixes for phonological reasons. As already noted by Ralli (2012b), Chairetakis (2012) and Ralli (2016), the selection of *-iz(o)* has been possibly triggered by the phonological similarity between the integrator's initial vowel, and the Turkish *-di-* ending vowel, that is /i/.⁶

The *-evg(o)* integrator is selected for the incorporation of a small number of Turkish infinitive forms. Its emergence in loan verb accommodation is limited in contrast to *-iz(o)*. In Cretan dialect, derivation of native verbs with *-evg(o)* is quite productive, but less productive than derivation with suffix *-iz(o)*. Along the lines of Ralli (2016), I suggest that the productivity of items may play an important role in the selection of the proper integrator in borrowing processes. It is also important to mention that the archaic character of *-evg(o)* may significantly reduce its productivity in verb accommodation, in contrast to *-iz(o)* which became extremely productive in Hellenistic period and Middle ages (Browning 1969).

⁶ As a counterexample of this phonological constraint I mention the loan word *kazad-ev(o)* 'earn' which is used as an alternative form of *kazad-iz(o)* (< Turkish aorist stem *kazandı(m)* < *kazanmak*).

4.4.2 Verb integration by indirect and direct insertion

My data suggest that a mixed strategy, that is direct and indirect integration which surfaces simultaneously, is also available in loan verb accommodation⁷. As a result, the same loan verb may display two or more alternatives without any difference in meaning. For an illustration, see the following examples:

- | | | |
|------|--|---------------------------------|
| (13) | Loan | Turkish form |
| a. | yurud-iz(o)/yurud(o)
'march' | yürüdü(m) (< yürümek) |
| b. | baglad-iz(o)/baglar-on(o)/baglar(o)
'tie, fasten' | bağladı(m)/bağlar- (< bağlamak) |

Cretan forms *yurud-iz(o)* and *yurud(o)* (13a) are both formed from the aorist stem of the Turkish verb *yürümek*, that is *yürüdü(m)*. While the first form is built from the combination of the stem, and the integrator *-iz(o)* (indirect insertion), the second form, has only assumed the inflectional suffix *-o* (direct insertion). Although the meaning of these two forms is the same, however, they belong to distinct inflectional classes. The form *yurud-iz(o)* is inflected according to IC1 which displays the most productive inflectional pattern in the dialect's inflectional system, while *yurud(o)* is inflected according to IC2 which displays the allomorphic variation pattern $X(a) \sim X(a,i,e)$ ⁸.

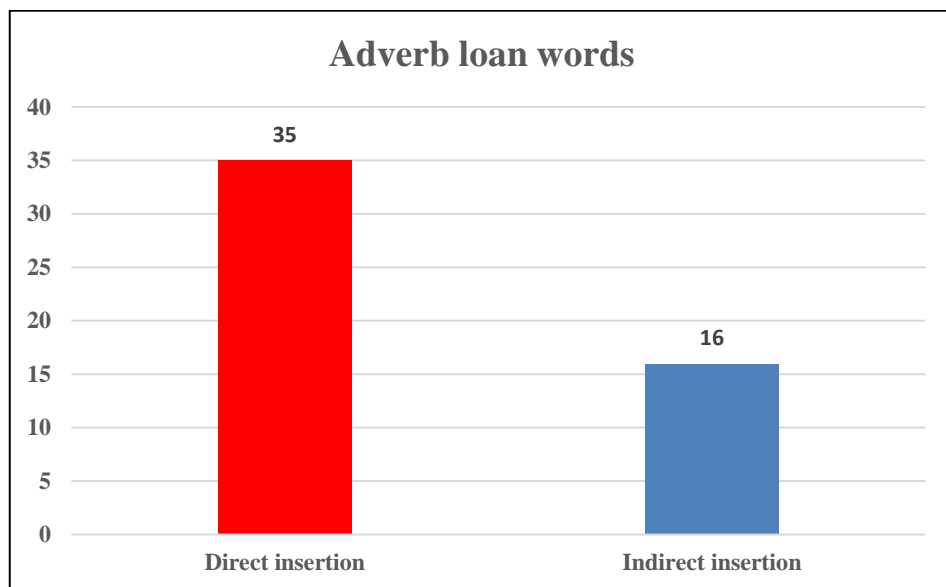
Examples in 13b, provide evidence that Cretan alternative forms which originate from the same Turkish lexeme, may be formed from different stems. While *baglad-iz(o)* is formed from the aorist stem *bağladı(m)*, verbs *baglar-on(o)* and *baglar(o)* are built from the present stem *baglar-* (Pitikakis 1983). Loan verbs *baglad-iz(o)/baglar-on(o)* and *baglar(o)* are inflected according to IC1 and IC2 respectively.

4.5 Adverb integration

Adverbs are the less borrowable grammatical category and comprise the 3.14% of the collected data. According to the following statistical chart, direct insertion is the most usual strategy of adopting loan adverbs, while instances of indirect insertion are less common.

⁷ Also noted by Ralli (2016) for a wide range of Modern Greek dialects.

⁸ For the inflectional classes of Standard Greek and Cretan, see Ralli (2005) and Chairetakis (forthcoming) respectively.



Picture 5: Statistical chart of adverb accommodation strategies

4.5.1 Adverb integration by direct insertion

Direct insertion strategy as far as adverbs are regarded is applied similarly to the rest grammatical categories.

- | | | |
|------|--------------------------|--------------|
| (14) | Loan | Turkish form |
| a. | daxa
'more, yet' | daha |
| b. | atsixta
'widely open' | açıktan |

Adverb incorporation by direct insertion is the simplest strategy of loan word integration among all grammatical categories.⁹ In this case, Turkish adverbs are fully adopted to Cretan without any change in their form (14a). As expected, in cases of phonological diversity and phonotactic incompatibility the inserted word may undergo phonological modifications. As shown in (14b), *açıktan* is phonologically modified to *atsixta* as in Cretan there are no adverbs (simple or derived from adjectives) ending in nasal consonants (in our case /n/). In addition, the alteration of /k/ to /x/ in words of Greek origin has been also noted to many dialects since the medieval period (Browning 1969) and, in our case, it has even been extended to words of foreign origin.

⁹ When nouns, adjectives and verbs are integrated directly from Turkish, they often assume overt inflection, as in Greek and its dialects, the presence of inflectional material is obligatory. Adverbs are not inflected and, as a result, their accommodation is considered easier and less complex than the other grammatical categories.

4.5.2 Adverb integration by indirect insertion

A small number of native derivational suffixes are used for the integration of loan adverbs. These suffixes are *-a* (14 loans), and *-i* (2 loans).

- | | | |
|------|------------------------|--------------|
| (15) | Loan | Turkish form |
| a. | il-a
'necessarily' | ille |
| b. | atzaip-i
'too much' | acayip |

Integrator *-a* (15a) is the dominating suffix which is used in adverb accommodation, while *-i* (15b) is almost absent from the collected data. In Cretan, *-a* is by far the most productive derivational suffix as it is combined on a multitude of Greek stems, from simple ones (*makr-a* < *makr(os)* 'far away') to more complex stems like compounds (*dimour-a* < *dimour(os)* 'hypocritically') and, as a consequence, its use has been extended on the borrowing of adverbial items.

5. Indirect insertion vs derivation

As shown in Chapter 4, two borrowing strategies are responsible for the adaptation of open class items, these are direct and indirect insertion. Indirect insertion seems to have several features common to derivation but also obvious differences.

Both native derivation and indirect insertion are accomplished with the combination of a stem base (nouns, adjectives, verbs) or word base (adverbs) with a derivational/integrating suffix respectively. Interestingly, suffixes keep their idiosyncratic properties in both morphological processes. As shown in (9), suffix *-eni(os)* is combined with stems which denote color/material for the formation of loan (*turudz-eni(os)*) or native derived adjectival words (*asim-eni(os)*).

As far as semantics is concerned, derivational processes cause a change in the meaning of the word, while in indirect insertion the meaning of the loan word remains unchanged. For an illustration, see the following examples:

- | | | | | |
|------|-----------------|-------------------|--------------|------------|
| (16) | Derived word | Meaning | Stem | Meaning |
| a. | louloud-eni(os) | 'made of flowers' | louloudi | 'flower' |
| b. | adinat-iz(o) | 'get thin' | adinat(os) | 'thin' |
| c. | elefther-ia | 'freedom' | elefther(os) | 'free' |
| d. | dinat-a | 'powerfully' | dinat(os) | 'powerful' |
-
- | | | | | |
|------|----------------|--------------------|-----------|--------------------|
| (17) | Loan word | Meaning | Stem/Word | Meaning |
| a. | turudz-eni(os) | 'of orange colour' | turuncu | 'of orange colour' |
| b. | takildi-z(o) | 'tease' | takilmak | 'tease' |
| c. | musub-ia | 'calamity' | musabe | 'calamity' |
| d. | il-a | 'necessarily' | ille | 'necessarily' |

Derived items in (16), display a different meaning after the combination of a stem with the appropriate derivational suffix. Change in meaning is one of the core properties of

derivation (see among other, Aronoff 1976, Booij 2005, Ralli 2005). In borrowing, the meaning of loan words is retained (see examples in 17). The formation of loan words seems to obey a semantic principle, let's call it '*Principle of semantic preservation*'. Further support for the existence of such a principle comes from the noun integration. In Cretan, as in Greek, nominal suffixes produce a wide variety of different meanings as opposed to verbal, adjectival and adverbial suffixes. Consider the following examples:

- | | | | |
|------|---|---------|----------------------------|
| (18) | Nominal derived word | Suffix | Suffix function |
| a. | pati-tiri < pat(o)
'grape mill' | -tiri | 'denotation of instrument' |
| b. | xoref-ti(s) < xorev(o)
'dancer' | -ti(s) | 'denotation of agent' |
| c. | pes-im(o) < peft(o)
'fall' | -im(o) | 'denotation of result' |
| d. | nis-aki < nisi
'small island' | -aki | 'denotation of diminution' |
| | | | |
| (19) | Verbal derived word | Suffix | Suffix function |
| a. | vith-iz(o) < vith(os)
'to sink' | -iz(o) | 'denotation of action' |
| b. | mastor-ev(o) < mastora(s)
'to work on' | -ev(o) | 'denotation of action' |
| c. | xamil-on(o) < xamil(os)
'to lower' | -on(o) | 'denotation of action' |
| d. | zest-ain(o) < zest(os)
'to heat something' | -ain(o) | 'denotation of action' |
| | | | |
| (20) | Adjectival derived word | Suffix | Suffix function |
| a. | kikl-ik(os) < kikl(os)
'round' | -ik(os) | 'denotation of attribute' |
| b. | ili-ak(os) < ili(os)
'solar' | -ak(os) | 'denotation of attribute' |
| c. | piret-odi(s) < piret(os)
'feverish' | -odi(s) | 'denotation of attribute' |
| d. | ksil-in(os) < ksil(o)
'wooden' | -in(os) | 'denotation of attribute' |
| | | | |
| (21) | Adverbial derived word | Suffix | Suffix function |
| a. | anoixt-a < anoixt(os)
'openly' | -a | 'denotation of manner' |
| b. | katalax-ou < katalagxan(o)
'randomly' | -ou | 'denotation of manner' |
| c. | distix-os < distixi(s)
'unfortunately' | -os | 'denotation of manner' |
| d. | amaxit-i < maxi
'without a fight' | -i | 'denotation of manner' |

The large variety of meanings which are derived from the nominal suffixes justifies the low percentage of indirect insertion strategy (~ 0,38%) in noun accommodation. Consider again the example *musub-ia* in 17c. As already mentioned in section 4, suffix *-ia* attaches to stems which express abstract concepts and tree/plant names and thus, its combination with the stem *musabe* is approved by the recipient morphological system, as it does not lead to a change in meaning of the loan word. If loan word *musabe* was combined with a different native suffix, a new meaning would appear and, as a result, the semantic principle would be violated. For example, if *musabe* was combined with the suffix *-aki*, a new meaning would be emerged, that is ‘small calamity’. On the other hand, suffixes presented in (19), (20) and (21) are attached to loan words without causing any change in meaning. This also explains why in verb accommodation alternative forms may coexist (*baglad-iz(o)/baglar-on(o)*).

In derivation, the grammatical category of the derived word is usually different from that of the base. As noted by Ralli (2005), there are cases in which the grammatical category of the derived item remains unchanged, as in the case of suffix *-aki*, which produces derived nouns from adjectival (*mikr-aki* < *mikr(os)* ‘small’) or noun bases (*paid-aki* < *paidi* ‘small child’). In borrowing, the grammatical category of the loan items remains unchanged as a result of a principle, let’s call it ‘*Principle of grammatical category preservation*’. As illustrated in section 4, in all instances of indirect insertion, the grammatical category of the loan items, is retained. See the following examples:

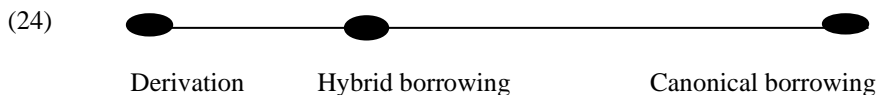
(22)	Loan	Grammatical category	Turkish	Grammatical category
a.	lelek-ia ‘lilac’	Noun	leylak	Noun
b.	kimalid-ik(os) ‘with ground meat’	Adjective	kıymalı	Adjective
c.	best-iz(o) ‘to get tired of’	Verb	bezemek	Verb
d.	mutulak-i ‘necessarily’	Adverb	mutlaka	Adverb

A small group of words (~ 20 items) seem to serve as possible counterexamples of the principles mentioned above. Consider the following examples:

(23)	Item	Grammatical Category	Turkish	Grammatical category
a.	durtu-luki ‘overcrowding’	Noun	dürtülmek ‘to be poked’	Verb
b.	derlik-on(o) ‘to eat to excess’	Verb	dirlik ‘livelihood’	Noun

Examples in (23), consist of a stem of Turkish origin and a native derivational suffix. Unlike the vast majority of loan words, these items display a different meaning from the base that are derived and in addition, they belong to different grammatical categories after suffixation is applied. I consider these instances as hybrid derived loans as they share more common features to derivation rather than borrowing. The examination of 1624 loans, shows that in prototypical and canonical borrowing the meaning and grammatical category of the loan words are retained. The existence of hybrid derived

loans proves that under conditions of heavy contact, two language systems of different typology may cooperate in derivational processes. Cretan, as Turkish, share a common property, that they are stem-based languages. As shown in 23b, *dirlik-on(o)* is derived from the Turkish noun stem *dirlik*¹⁰ and the Greek derivational suffix *-on(o)*. The final outcome of this process is a derived hybrid loanblend which displays a different meaning, but also belongs to a different grammatical category from that of the stem. On a word formation continuum, with derivation and canonical borrowing by indirect insertion at the two poles, hybrid borrowing should be positioned in between, but closer to derivation, as shown in (24):



6. Conclusions

In this paper, I discussed several matters concerning the borrowing of Turkish loan words to Cretan. I showed that open class words are accommodated by two strategies, direct and indirect insertion. Direct insertion is the simplest strategy of word integration, in contrast to indirect insertion, which is governed by several constraints and principles. By examining a corpus of 1624 loan words, I showed that borrowing between two language systems which belong to different typological families is possible, if there are common features between them. Agglutinative Turkish and fusional Cretan share two common properties: (a) both linguistic systems are stem-based languages and (b) both languages have distinct and easily recognizable constituents. These common features play a decisive role on borrowing as in the cases of constituent reanalysis and formation of loanblends.

Acknowledgements

I thank Professor Angela Ralli for her comments and for checking my dialectal and Turkish data. I would also like to thank Professor P. Pappas and Ass. Professor Maxim Kisilier for their insightful comments during the 5th Patras International Conference of Graduate Students in Linguistics (PICGL5).

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¹⁰ Turkish noun *dirlik* has not been transferred to Cretan as a separate loan noun word.

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