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Karatsareas, P.

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Convergence in word structure: Revisiting agglutinative noun inflection in Cappadocian Greek

Petros Karatsareas

University of Westminster

Cappadocian Greek is reported to display agglutinative inflection in its nominal system, namely, mono-exponential formatives for the marking of case and number, and NOM.SG-looking forms as the morphemic units to which inflection applies. Previous scholarship has interpreted these developments as indicating a shift in morphological type from fusion to agglutination, brought about by contact with Turkish. This study takes issue with these conclusions. By casting a wider net over the inflectional system of the language, it shows that, of the two types of agglutinative formations identified, only one evidences a radical departure from the inherited structural properties of Cappadocian noun inflection. The other, on the contrary, represents a typologically more conservative innovation. The study presents evidence that a combination of system-internal and -external motivations triggered the development of both types, it describes the mechanisms through which the innovation was implemented, and discusses the factors that favoured change.

Keywords: Cappadocian Greek, noun inflection, agglutinative, fusional, inflectional class shift, language contact, multiple causation

1. Introduction[*]

Our understanding of language contact owes a great deal to Cappadocian Greek. Ever since Thomason & Kaufman (1988) discussed it extensively, the Modern Greek varieties of Cappadocia (henceforth Cappadocian) figure prominently as a quintessential example of heavy structural borrowing, in which the effects of Turkish influence are clearly identifiable on all levels of grammar, from phonology and morphology to syntax, semantics and discourse (Thomason 2001, Winford 2003, 2005, 2010, Gardani 2008, Janse 2009, Matras 2009, 2010, Drinka 2010). There are essentially two reasons for this: (a) the sociohistorical circumstances in which Cappadocian developed over time, and (b) the presence in Cappadocian of Turkish lexical and grammatical material (sounds, phonemes, morphemes) in combination with the perceived similarity between equivalent grammatical structures in the two languages.

As far as the former is concerned, the conquest of inner Asia Minor by the Seljuq Turks in the second half of the 11th century CE separated Cappadocian communities from Greek-speaking populations contiguously settled in other parts of the wider Eastern Mediterranean region (most notably, the coastal areas of Asia Minor, the Aegean islands, Cyprus, the southern Balkan peninsula). As a result of the conquest, in the centuries that followed, the inner part of Asia

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Minor underwent a far-reaching process of sociolinguistic transformation that saw the Turkish of the Seljuqs and Ottomans replacing Greek as the language used in all aspects of everyday life, political, economic, social and cultural. This, in its turn, gave rise to considerable Greek-Turkish bilingualism, which came to define the communities of Greek-speaking enclaves of Asia Minor almost without exception (Dawkins 1916, Vryonis 1971, Janse 2002, Karatsareas 2011, 2013). Naturally, these circumstances had a direct impact on the Cappadocian varieties, which — alongside numerous archaisms reminiscent of earlier stages of Greek — display a considerable number of grammatical and lexical innovations that distinguish them from Greek varieties spoken elsewhere.

It is an incontrovertible fact that many of the distinctive Cappadocian innovations had the effect of rendering its grammatical structure more like Turkish. The result is a high degree of typological convergence between the two with respect to a substantial number of phonological, morphological and syntactic traits. Table 1 contrasts some traits in Cappadocian and Turkish, on the one hand, with Standard Modern Greek (henceforth SMGr), on the other, which has been influenced by Turkish to a significantly smaller degree than Asia Minor dialects.

Table 1. Typological features in SMGr, Cappadocian and Turkish.

	SMGr	**Cappadocian**	**Turkish**
1	interdental fricative distinction /θ ~ ð/	no interdental fricative distinction	no interdental fricative distinction
2	tripartite gender distinction	no grammatical gender distinction	no grammatical gender distinction
3	no-differential object marking	differential object marking	differential object marking
4	head-initial (N + GEN, N + REL)	head-final (GEN + N, REL + N)	head-final (GEN + N, REL + N)
5	no question marker	question marker	question marker
6	prepositions, circumpositions	prepositions, circumpositions, postpositions	postpositions

In some cases, such as the development of differential object marking, identifying language contact with Turkish as the primary cause for change has been relatively straightforward (see Janse 2004, Spyropoulos & Tiliopoulou 2006, Karatsareas 2011 and Spyropoulos & Kakarikos 2011 for details). In other cases, however, contact with Turkish does not tell the whole story. For example, Karatsareas (2009, 2011, 2014) argues that the loss of grammatical gender distinctions is best understood as an innovation that emerged language-internally in the earlier historical stages of the language and whose evolution was driven by Turkish influence only at a later stage.

These and other case studies (Karatsareas 2011, 2013, 2016) highlight that at least some Cappadocian innovations result from both language-internal and -external factors. They also strengthen the possibility that language-internal dynamics may condition the trajectory of change

even where language contact may seem like the obvious explanation. This resonates with the view that multiple causation is the most fruitful approach to innovations in contact settings. The caveat that structural similarities between languages that have come in contact with one another may not always be the result of that contact ONLY has been repeatedly argued as early as Sapir (1921) on *who*/*whom* in English, and is now high on the research agenda of contact linguistics (Joseph 1983: 204–212, Thomason & Kaufman 1988: 61, 63–64, Dorian 1993: 132, 136–140, Croft 2000: 115, King 2000: 47, Farrar & Jones 2002: 1–8, Clyne 2003: 93–96, Backus 2005: 314, Heine & Kuteva 2005: 6–13, Thomason 2008: 43, 2010: 31, 45–46, Hickey 2010: 21, Chamoreau & Léglise 2012: 14–15).

Against this backdrop, I revisit a Cappadocian morphological innovation widely cited as compelling evidence in favour of the heavily turkicised character of the language: the development of so-called agglutinative noun inflection. Previous scholars have treated this as uncontroversially contact-induced, a clear indication of a shift in morphological type from fusion to agglutination. However, the way these conclusions have been reached is not unproblematic: Most studies have been based on small datasets, examined in isolation from the inflectional system as a whole, without investigating the available textual material and without accounting for mechanisms of change, language-internal or -external.

In what follows, I attempt to overcome these shortcomings by contextualizing the issue in Cappadocian nominal morphology.[1] The result is a novel proposal that redefines Cappadocian agglutinative inflection in terms of its synchronic nature and its diachronic development. There is a case to be made for structural isomorphism in some inflected noun forms in Cappadocian and Turkish. However, the synchronic analysis put forward here highlights the fact that the extent of this isomorphism is much more limited than previously assumed and does not support the idea of a large-scale typological shift. The diachronic analysis identifies for the first time the language-internal dynamics for the emergence of the morphological innovation and illustrates how these acted together with previously identified language-external conditions with the result of furthering the typological similarity between the two languages.

The paper is structured as follows: In §2, I present the theoretical premises of this study. In §3, I describe the distinctive characteristics of Cappadocian agglutinative inflection and review previous accounts. In §4, I outline the typology of Cappadocian noun inflection. In §5, I develop a novel proposal on the synchrony and diachrony of agglutinative inflection. §6 concludes.

2. Theoretical premises

2.1 Inflection

I follow Ralli's (2000, 2005) feature-based approach to inflection, according to which inflected word forms are combinations of stems and affixes. In terms of Stump's (2001) classification, the approach is lexical-incremental in that (a) both constituent units have their own distinct entries in the mental lexicon, and (b) affixation enriches the basic semantic interpretation of a stem with

[1] The data for this study are drawn from grammatical descriptions of Cappadocian and dialectal texts (Dawkins 1916, Kesisoglou 1951, Fosteris & Kesisoglou 1960, Mavrochalyvidis & Kesisoglou 1960, Costakis 1964); from unpublished texts documented by the Research Centre for Modern Greek Dialects of the Academy of Athens and deposited at the Centre's manuscript archive (Costakis 1959, 1962, 1963, 1967, Tsitsopoulos 1962); and, from the rather scanty but useful material in ethnographic monographs (Alektoridis 1833, Krinopoulos 1889, Sarantidis 1899, Karampodas 1948).

additional pieces of information. Stems and affixes are listed in the lexicon as feature-bundle sets that contain idiosyncratic information pertaining to their phonological, morphological, syntactic and semantic properties. The representation of features takes the form of attribute-value pairs. The attribute part refers to the specific feature in question while the value part refers to the content this feature has in a given word form. Some bundles, however, may contain underspecified features, that is, without a specified value part.

For example, in SMGr, nouns inflect for the following features: NUMBER, CASE, GENDER and INFLECTIONAL CLASS (henceforth IC). GENDER and IC form part of the lexical entry of stems alongside the lexical meaning. NUMBER, CASE and IC are found in the entry of affixes. In an ACC.PL form such as *ipírus*, the stem *ipir-* bears the lexical meaning "continent" and is inherently specified for the value [feminine] for the GENDER feature and [IC1] for the IC feature. The suffix *-us* is inherently specified for the values [plural] for NUMBER, [accusative] for CASE, and [IC1] for IC (1). IC has the same value in *ipir-* and in *-us*, which illustrates Ralli's view of inflection as "a morphological process of feature-matching and feature-passing between feature bundles in feature bundle representations" (2000: 202).

(1)	*ipir-*	+	*-us*	→	*ipírus*
	"continent"		NUMBER: plural		"continent.PL.ACC"
	GENDER: feminine		CASE: accusative		
	IC: IC1		IC: IC1		

Besides ensuring the correct combination of stems and affixes, the IC feature serves to partition stems into distinct and identifiable sets termed inflectional classes, whose members combine with the same sets of affixes in inflection; cf. the classic definition of an IC by Aronoff: "a set of lexemes whose members each select the same set of inflectional realizations" (1994: 65). Since its values are not available to syntax, IC is a purely morphological feature unlike NUMBER, CASE and GENDER, which take part in agreement and/or government and are therefore considered morphosyntactic features. That said, it is possible that ICs may come to be associated with a particular semantic content within a given nominal system without, however, being reducible to it (Gardani 2013: 52–55). See, for example, the semantic assignment rules for IC that Fraser & Corbett (1995: 132–137) propose for Russian, or the cases adduced by Ortmann (1998).

2.2 Morphological typology

Ever since the von Schlegel brothers and Wilhelm von Humboldt introduced it in the 19th century, the distinction between agglutinative and fusional morphological structures has received enormous attention with a number of different criteria being proposed to distinguish between the two types: cumulation vs. separation, stem (in)variance, affix (in)variance, suppletion vs. no suppletion, (non-) transparent segmentability (see Pöchtrager et al. 1998, Plank 1999, Plungian 2001 and Haspelmath 2009). The distinction has also received criticism, mainly because it has not been shown to correlate with other aspects of grammar and so does not provide a meaningful crosslinguistic typology beyond inflectional morphology (Anderson 1985: 10, Bauer 1988: 170, Spencer 1991: 38; cited in Haspelmath 2009: 15).

I follow previous scholars in using the agglutinative vs. fusional distinction to discuss the differences and similarities in morphological type between SMGr, Cappadocian and Turkish. In that, I adopt the two criteria previously used: (a) cumulation vs. separation, and (b) stem- vs.

word-based inflection. According to these, both languages are concatenative in employing suffixation for the marking of morphosyntactic and morphological features. SMGr, however, is fusional in exhibiting cumulation and stem inflection. In SMGr, the values of the various inflectionally active features are cumulatively marked by poly-exponential suffixes, attached to stems. Stems are bound and never surface *per se* but always need to combine with an affix to form a grammatical word. Turkish, on the other hand, is agglutinative in exhibiting separation and word-based inflection. In Turkish, features are separately marked by mono-exponential suffixes, which are attached to zero-marked, free-occurring bases that fill the NOM.SG cell of the paradigm. Compare the inflection of SMGr *ípiros* "continent" and its Turkish equivalent *kıta* in (2). In the SMGr example, NOM and SG are cumulatively marked by *-os*, NOM and PL by *-i*, ACC and PL by *-us*, and GEN and PL by *-on*, which attach to the stem *ipir-*. In Turkish, NOM is unmarked, PL is marked by *-LAr*, ACC by *-(y)I* and GEN by *-(n)In*, which attach to the base *kıta*.

(2) "continent"

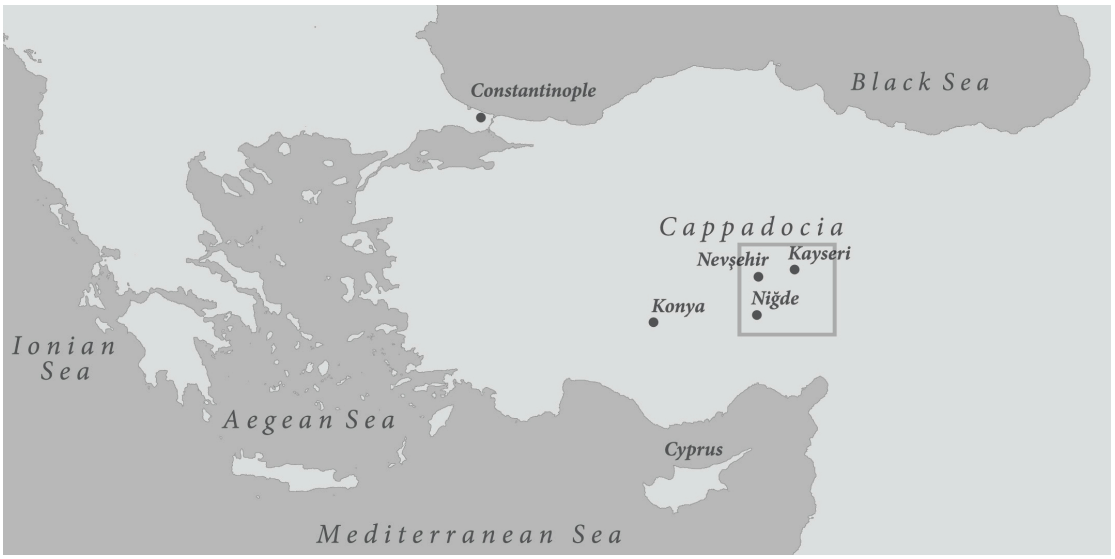
		a. SMGr	b. Turkish
SG	NOM	*ípir-os*	*kıta*
PL	NOM	*ípir-i*	*kıta-lar*
	ACC	*ipír-us*	*kıta-lar-ı*
	GEN	*ipír-on*	*kıta-lar-ın*

In SMGr suffixes, therefore, the relation between form and function is one-to-many while in Turkish suffixes it is one-to-one. As a result, the morphological structure of Turkish inflected forms has one slot for the expression of each inflectionally active feature, which can be viewed as a straightforward index of agglutinativity. In SMGr all inflected noun forms consist of only one stem, which can be simple or complex (i.e., derived), and only one suffix. This includes NOM.SG forms such as *ípir-os*, which correspond to Turkish zero-marked bases like *kıta*.

3. Agglutinative inflection in Cappadocian

3.1 Intradialectal distribution

Cappadocian is best described as a dialect cluster of closely related Greek varieties spoken until the early 1920s by the Greek Orthodox communities of 17 principal villages and a few of their colonies located in the rural areas between the Ottoman cities of Nevşehir, Kayseri and Niğde, in the Cappadocian plateau of southeastern Asia Minor (today's Turkey). The Cappadocian-speaking region as defined by these villages and their relative positions are shown in Maps 1 and 2. Following the exchange of Christian and Muslim populations between Greece and Turkey in 1923–1924, Cappadocian speakers were forcibly relocated to Greece, mainly to rural areas of the north, where elderly speakers as well as some second- and third-generation refugees still speak their native dialect. Unfortunately, Cappadocian faces the prospect of extinction under the pressure of SMGr.



Map 1. The historical Cappadocian-speaking region in inner Asia Minor (Karatsareas 2011: 12).

Map 2. The historical Cappadocian-speaking villages (Karatsareas 2011: 13).

Agglutinative inflection is an innovation shared by most, but crucially not all, Cappadocian varieties. Agglutinative forms have been recorded for Ferték (Alektoridis 1833, Krinopoulos 1889, Dawkins 1916); Malakopí, Sílata and Semenderé (Dawkins 1916); Mistí (Dawkins 1916, Fates 2012); Araván and Ghúrzono (Dawkins 1916, Karampodas 1948); Ulaghátsh (Dawkins 1916, Kesisoglou 1951); Axó (Dawkins 1916, Mavrochalyvidis & Kesisoglou 1960); and Phloïtá (Tsitsopoulos 1962). Agglutinative forms are not reported for Anakú, Delmesó, Potámia, Sinasós or Zaléla.

3.2 The typology of agglutinative forms

Agglutinative inflection refers to two distinct word formation processes in Cappadocian. The first and most widely attested process involves the suffixation of the two native Greek inflectional endings *-i̯u* and *-i̯a* — normally used in the inflection of historically neuter nouns such as *spit* "house" (3) — to morphemic units that coincide formally with the NOM.SG in forming respectively the GEN.SG/PL and the NOM/ACC.PL of nouns that do not historically belong to the same IC as *spit*. This can be formalised as [word + {*-i̯u*, *-i̯a*}] and is found in all Cappadocian varieties that exhibit agglutinative forms.

Some nouns employ both *-i̯u* and *-i̯a* in their paradigms. Consider the inflection of *ɣámus* "wedding" in Mistí (4a) compared to its cognate in Potámia (4b), which does not exhibit agglutinative forms. Others, though, employ only one of the two suffixes, thus retaining part(s) of their inherited inflection. In Araván, *tʃobános* "shepherd" only employs GEN.SG *-i̯u* while preserving inherited *-i* in the NOM/ACC.PL (5a). *Çimós* "winter" only employs NOM/ACC.PL *-i̯a* and preserves inherited *-ú* in the GEN.SG (5b).[2]

(3) Cappadocian

SG	NOM/ACC	*spit*	"house"
	GEN	*spit-**i̯ú***	
PL	NOM/ACC	*spít-**i̯a***	
	GEN	*spit-**i̯ú***	

(4)

		a. Mistí Cappadocian		b. Potámia Cappadocian
SG	NOM	*ɣámus*[3]	"wedding"	*ɣám-os*
	ACC	*ɣámus*		*ɣám-o*
	GEN	***ɣámuz-i̯u***[4]		—
PL	NOM/ACC	***ɣámuz-i̯a***		*ɣám-us*

(Dawkins 1916: 96, 102)

(5) Araván Cappadocian

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[2] Throughout, I provide the name of the respective Cappadocian variety for examples. Cappadocian data are given in broad phonetic transcription with the acute accent marking stress. The only exception is <i̯>, which is used to represent a glide allophone of /i/. When the glide is found preceding a vowel in the same syllable, it surfaces as [j̟] after voiced obstruents (*papaði̯ús* "priests.PL.ACC" [pa.pa.ˈðj̟us]), as [ç] after voiceless obstruents (*meti̯a* "shirt.PL.NOM/ACC" [ˈme.tça]), as [ʎ] after /l/ (*fkali̯a* "head.PL.NOM/ACC" [ˈfka.ʎa]) and as [ɲ] after /n/ and /m/ (*laíni̯a* "pitcher.PL.NOM/ACC" [la.ˈi.ɲa], *xamami̯ú* "hamam.SG/PL.GEN" [xa.ma.ˈmɲu]). Turkish data are given in standard orthography. The following abbreviations are used: 1: first person, 2: second person, 3: third person, ACC: accusative, ART: article, COMP: complementiser, COP: copula, DEF: definite, DEM: demonstrative, GEN: genitive, IMPFV: imperfective, IMPV: imperative, INDF: indefinite, NEG: negation, NOM: nominative, PL: plural, PNP: perfective non-past, POSS: possessive, PREP: preposition, PROX: proximal, PRS: present, PST: past, REL: relative, SG: singular, SIM: similative.

[3] In Malakopí and Mistí Cappadocian, unstressed /e/ and /o/ raise to [i] and [u], respectively, especially when they are found in a word-final syllable (Dawkins 1916: 64).

[4] Final /s/ is voiced to [z] when a suffix beginning with a vowel or a voiced consonant is added (Dawkins 1916: 70). In this case, *s*-voicing is caused by the initial glide of the two suffixes.

		a. "shepherd"	b. "winter"
SG	NOM	*tʃobán-os*	*çim-ós*
	ACC	*tʃobán-o*	*çim-ó*
	GEN	***tʃobánoz-i̯u***	*çim**-ú***
PL	NOM/ACC	*tʃobán**-(i)***	***çimóz-i̯a***

(Dawkins 1916: 104)

The second process involves the suffixation of *-i̯u* to morphemic units that coincide formally with the NOM/ACC.PL resulting in a novel GEN.PL form. This type is found in fewer varieties, in which it occurs only with nouns that form their NOM/ACC.PL by suffixing *-es* to a stem. It can therefore be formalised as [stem + *-es* + *-i̯u*]. Consider the inflection of *néka* "woman" in Ferték (6a), which also has a GEN.SG of the [word + *-i̯u*] type, compared with its Delmesó cognate (6b).

(6)

		a. Ferték Cappadocian		b. Delmesó Cappadocian
SG	NOM/ACC	*néka*	"woman"	*néka*
	GEN	*néka**-i̯u***		*néka**-s***
PL	NOM/ACC	*néc-es*		*néc-es*
	GEN	***néc-ez-i̯u***		—

(Dawkins 1916: 113, 114)

Pace Sasse (1992: 65), who documented the form *átropos-i̯a-i̯u* "man-PL-GEN" from one of the last speakers of Ulaghátsh Cappadocian, combinations that would result in such GEN.PL forms as *ɣámuz-i̯a-i̯u "wedding-PL-GEN" are not attested in the sources from which data were drawn and are therefore excluded from the analysis.

3.3 The case for morphological convergence: A standard analysis in need of revision

Dawkins (1916) was the first to observe the structural isomorphism between Cappadocian and Turkish inflected forms. He describes both types of agglutinative inflection. In relation to [word + {*-i̯u*, *-i̯a*}], he comments on the innovative inflection of *mílos* "mill" in Sílata, identical with that of *ɣámus* in (4a):

> These forms in *-ι̯ου* [*-i̯u*] and *-ι̯α* [*-i̯a*] arise as follows. Paroxytone neuters of the 2nd decl.[ension] such as *σπίτ* [*spit* "house"] are extremely common …. *Σπίτ* [*spit*] then forms its plural *σπίτ-ι̯α* [*spít-i̯a*] and its gen.[itive] *σπιτ-ι̯οῦ* [*spit-i̯ú*], apparently, and thus to the consciousness of the speaker really, by adding *-ι̯α* [*-i̯a*] and *-ι̯ου* [*-i̯u*] to the nominative, just as Turkish does the same by adding -ler and -in. As Turkish does this universally, so the Greek has done in his own language what he habitually does when he talks Turkish, and used his own endings *-ι̯α* [*-i̯a*] and *-ι̯ου* [*-i̯u*] in the Turkish agglutinative way. Hence *μύλοζι̯α* [*míloz̯i̯a*] (Dawkins 1916: 98).

In relation to [stem + *-es* + *-i̯u*], Dawkins analyses the correspondences between the inflection of Ferték *néka* (6a) and that of Turkish *kız* "girl":

> The Ferték decl.[ension] of *ναίκα* [*néka*] shews the agglutinative character of this type so well, with its gen[itive].pl[ural] in which the case-sign (-*ι̯ον*, -*γι̯ον* [-*i̯u*]) is added to the general mark of the pl.[ural] (-*εϛ* [-*es*]) (Dawkins 1916: 114).

In these excerpts, he lays the foundations for nearly all the accounts of Cappadocian agglutinative inflection that followed (Janse 2001: 475–476, 2004: 9–12, 2009: 41, Johanson 2002: 59-60, Winford 2003: 83, 2005: 405, 2010: 181, Matras 2009: 262–263, 2010: 75–76, Ralli 2009: 99–102, Horrocks 2010: 403–404, Melissaropoulou 2013: 321–327, Thomason 2001: 63–64, Thomason & Kaufman 1988: 219)

Faithful to Dawkins's original formulations, work to date treats the innovative formations exemplified in (4)–(6) as the outcome of heavy borrowing on the premise that they parallel the structure of Turkish inflected forms in two respects: (a) the exponence of -*i̯u* and -*i̯a*, and (b) the status of the morphemic unit to which they are suffixed. Specifically, -*i̯u* and -*i̯a* in forms such as *ɣámuz-i̯u* and *ɣámuz-i̯a* (4a) are analysed as having developed into single exponents of (genitive) case and (plural) number, respectively, modeled on the corresponding Turkish suffixes *-(n)In* "GEN" and *-LAr* "PL" (2b). Elements like *ɣámus* are additionally considered to have acquired the same status as Turkish bases. These perceived similarities are usually contrasted with the structure of inflected forms in other Modern Greek varieties, most commonly the standard, in which all inflectional formatives are cumulative exponents typically marking the values of bundles of features (NUMBER, CASE, IC) and are regularly suffixed to stems. Based on this analysis, the paradigms of Cappadocian nouns such as *ɣámus* and *néka* are taken to show a typological shift from fusional inflection of the Greek type to agglutinative inflection of the Turkish type. The proposed shift is schematically illustrated in Figure 1.

		[word	(+ NUMBER)	(+ CASE)]	([word + {-*i̯u*, -*i̯a*}] type)
			-*i̯a*	-*i̯u*	
[stem + inflectional suffix]	→				
|					
{NUMBER, CASE, IC}		[stem	+ NUMBER	(+ CASE)]	([stem + -*es* + -*i̯u*] type)
			-*es*	-*i̯u*	

Figure 1. The proposed shift from fusional to agglutinative inflection in Cappadocian.

The main issue with this analysis is that Cappadocian agglutinative forms are examined collectively without the context of the dialect's whole inflectional system. Two drawbacks challenge the idea of a large-scale typological shift and limit our understanding of how agglutinative inflection developed.

First, no evidence is provided to show that the postulated changes in the exponence of -*i̯u* and -*i̯a* and the use of words instead of stems as the units to which inflection applies are indeed changes and, if they are, that they were induced by contact with Turkish. For this to be substantiated, it must be demonstrated that single exponence and word-based inflection were unknown to Cappadocian prior to the appearance of agglutinative forms. If so, it will further need to be shown that the two developed on the model of Turkish and not language-internally. If, on the contrary, the Cappadocian inflectional system already employed single exponence and word-based inflection before agglutinative forms appeared, then the place of -*i̯u* and -*i̯a* and of

units like *ɣámus* within that system need to be examined. Only then can we say whether agglutinative forms constitute a radical departure from the inherited properties of Cappadocian noun inflection, as often stated, or they represent a more system-congruent innovation.

Second, the standard analysis does not account for the factors that favoured the spread of *-i̯u* and *-i̯a* from the inflectional paradigms of nouns such as *spit* to those of nouns such as *ɣámus*, *tʃobános*, *çimós* and *néka*, in which GEN.SG/PL and NOM/ACC.PL were previously marked by other suffixes, or for the mechanisms through which the spread was implemented. In contrast, the innovation is generally portrayed as having spread across the Cappadocian inflectional system in leap-frog fashion without intermediate stages of development. The Cappadocian linguistic record, however, reveals that agglutinative forms are unevenly distributed across varieties. This suggests strongly that the change affected different types of nouns at different times with some varieties being more conservative, illustrating incipient stages of the development, and others more innovative, representing more advanced stages. Previous studies do not address this and thus do not take advantage of the methodological value it has for a well-founded diachronic account of the phenomenon.

In short, the development of agglutinative inflection cannot be fully understood without the context of the full Cappadocian inflectional system prior to the first appearance of the innovation. These are described in detail in §4 based on the evidence provided by varieties that did not undergo the development. The resulting insights shed light on the emergence of agglutinative forms in the Cappadocian varieties that did undergo it and underpin the proposal on the synchrony and diachrony of agglutinative inflection in §5.

4. The typology of noun inflection in Cappadocian

4.1 Morphological properties

The morphological data from Anakú, Delmesó, Potámia and Sinasós Cappadocian reveal a system in which nouns inflect for two morphosyntactic features, NUMBER and CASE. NUMBER can take one of two values: [singular] or [plural]. CASE can take one of four: [nominative], [accusative], [genitive] or [vocative]. Available grammatical descriptions do not generally mention vocative forms, which are considered to be non-structural, peripheral to the system and rarely participate in inflectional change. I therefore do not include them in this analysis.[5]

Inflected forms in Cappadocian have a bipartite morphological structure consisting of (a) a morphemic unit — either a stem or a word — that bears the noun's lexical meaning, and (b) an inflectional suffix that marks the values for NUMBER and CASE. The values for the two features are generally expressed cumulatively by indivisible poly-exponential formatives. For example, *-os* in *áθrop-os* "man" marks both singular and nominative. In *kléfti-s* "thief", though, the same NUMBER/CASE combination is marked by *-s* whereas in *xtin-ó* "cow" it is marked by *-o*. These differences indicate the presence of ICs and allow us to conclude that the feature IC is also active in Cappadocian noun inflection. Following Ralli (2000, 2005) and Spyropoulos & Kakarikos (2011), I consider the specification for the IC feature present in the lexical entry of both stems/words and inflectional suffixes. For inflected forms to be grammatical, both

[5] See Henrich (1976: 248–263) for an exhaustive discussion of Cappadocian vocatives, and also Mavrochalyvidis & Kesisoglou (1960: 37) for a notable exception in Axó Cappadocian that involves the development of a novel ACC.SG suffix *-e* from an old VOC.SG suffix that replaced inherited *-o* in nouns belonging to IC1 (see Table 2).

morphological constituents must be specified for the same IC value, or the suffix can be underspecified for this feature. In line with this, I assume that Cappadocian inflected forms have the morphological structure shown in (7):

(7) [stem/word + inflectional suffix]
"(lexical meaning)" NUMBER: {singular, plural}
IC: IC*x* CASE: {nominative, accusative, genitive}
IC: (IC*x*)

Table 2 classifies Cappadocian nouns into nine ICs based primarily on the criteria proposed by Ralli (2000, 2005) for the IC classification of SMGr nouns: (a) the whole set of suffixes used to mark all six NUMBER/CASE combinations that compose the nominal paradigm, and (b) allomorphic variation in stems/words (or lack thereof). To these I add a third, (c) animacy, which has been shown by Janse (2004) and Spyropoulos & Kakarikos (2011) to determine the set of suffixes with which certain stems/words combine in inflection. This is specifically the case in the subclass distinction within IC1 and IC3. Within IC1, IC1a is only composed of animate nouns, IC1b of inanimate nouns. Within IC3, only human nouns inflect according to IC3a whereas non-human nouns inflect according to IC3b.[6]

Table 2. The Cappadocian noun inflectional classes.

		IC1a stem: *aθrop-* "man"	**IC1b** stem: *mil-* "mill"
SG	NOM	*áθrop-os*	*míl-os*
	ACC	*áθrop-o*	*míl-o*
	GEN	*aθróp(-u) ~ aθrop-i̯ú*	*míl(-u) ~ mil-i̯ú*
PL	NOM	*aθróp(-i)*	*míl-us*
	ACC	*aθróp-us ~ aθrop-i̯ús ~ aθróp(-i)*	*míl-us*
	GEN	*aθróp(-u) ~ aθrop-i̯ú*	*míl(-u) ~ mil-i̯ú*

		IC2 stem 1: *klefti-* stem 2: *kleft-* "thief"	**IC3a** stem 1: *papa-* stem 2: *papað-* "priest"	**IC3b** stem 1: *cerata-* stem 2: *ceratað-* "snail"
SG	NOM	*kléfti-s*	*papá-s*	*ceratá-s*
	ACC	*kléft(i)-∅*	*papá-∅*	*ceratá-∅*
	GEN	*kleft-i̯ú*	*papá-∅ ~ papað-i̯ú*	*ceratað-i̯ú*
PL	NOM	*kléft(-i)*	*papáð-es ~ papáð(-i)*	*ceratáð-i̯a*
	ACC	*kleft-i̯ús*	*papáð-es ~ papað-i̯ús*	*ceratáð-i̯a*
	GEN	*kleft-i̯ú*	*papað-i̯ú*	*ceratað-i̯ú*

[6] Certain paradigmatic cells display variation. Brackets enclose segments affected by a phonological rule deleting unstressed high vowels /i/ and /u/ in word-final position. Finally, GEN.PL forms occur rarely in the texts and, when they do, tend to coincide formally with the corresponding GEN.SG forms (see below). GEN.PL forms that are distinct from the respective GEN.SG are obsolete. They are, nevertheless, given for the sake of completeness.

		IC4a word: *neka* stem: *ne{k/c}-* “woman”	**IC4b** word: *nifi* stem 1: *nif-* stem 2: *nifað-* “bride”
SG	NOM/ACC	*néka*	*níf(i)*
	GEN	*néka-s*	*nífi-s ~ nifað-i̯ú*
PL	NOM/ACC	*néc-es*	*níf-es ~ nifáð-es*
	GEN	*nek-ón*	*nif-i̯ú*

		IC5 stem: *xtin-* “cow”	**IC6** word: *fti* “ear”	**IC7** word: *spit* “house”
SG	NOM/ACC	*xtin-ó*	*fti*	*spit*
	GEN	*xtin-ú ~ xtin-i̯ú*	*fti̯-ú*	*spit-i̯ú*
PL	NOM/ACC	*xtin-á ~ xtin-i̯á*	*fti̯-á*	*spít-i̯a*
	GEN	*xtin-ú ~ xtin-i̯ú*	*fti̯-ú*	*spit-i̯ú*

		IC8 word: *para* stem: *parað-* “money”	**IC9** word: *puma* stem: *pumat-* “cover”
SG	NOM/ACC	*pará*	*púma*
	GEN	*parað-i̯ú*	*pumát(-u)*
PL	NOM/ACC	*paráð-i̯a*	*púmat-a*
	GEN	*parað-i̯ú*	—

We can now examine the exponence of *-i̯u* and *-i̯a*, and the status of the morphemic units to which suffixes attach within this system. Looking first at the morphemic units, we find both stems and words being used. ICs 1, 2, 3 and 5 are exclusively stem-based. In ICs 6 and 7, in contrast, all inflected forms are word-based. The remaining ICs have mixed inflection employing both stems and words.

Turning to exponence, owing to differently motivated instances of feature neutralisation, *-i̯u* only marks CASE while *-i̯a* only marks NUMBER. In the case of *-i̯u*, the NUMBER specification is neutralised due to the accidental homophony between GEN.SG and GEN.PL, which Karatsareas (2011: 223–224) attributes to phonological developments.[7] For *-i̯a*, the CASE specification is neutralised due to syncretism between NOM and ACC. What is more, the IC feature is underspecified in both suffixes as they each have the wider possible distribution within the inflectional system in their respective cells, functioning as general defaults for the marking of GEN and PL. In the GEN.SG/PL cells, *-i̯u* is found in seven out of nine ICs, *-u* in four, and *-s* in only

[7] These are the raising of /o/ to [u] and the loss of word-final /n/. As a result, the inherited GEN.PL suffixes *-on* and *-i̯on* collapsed with the GEN.SG suffixes *-u* and *-i̯u*, respectively: *-on* “GEN.PL” > *-un* > *-u* = *-u* “GEN.SG”; *-i̯on* “GEN.PL” > *-i̯un* > *-i̯u* = *-i̯u* “GEN.SG”.

one IC. In the NOM/ACC.PL, *-i̯a* is used in four out of nine ICs, *-a* is only found in three, *-es* and *-i* in two each, and *-us* in only one IC. In this light, I conclude that, unlike most other Cappadocian suffixes, *-i̯u* and *-i̯a* are single exponents for CASE and NUMBER (8).

(8) a. *-i̯u* ⇔ CASE: genitive

b. *-i̯a* ⇔ NUMBER: plural

In sum, the Cappadocian system displays variation with respect to suffix exponence and the distinction between stems and words. On the one hand, we find poly-exponential suffixes such *-os* in *áθrop-os* and *-i̯us* in *aθrop-i̯ús* (IC1), and mono-exponential suffixes such as *-i̯u* and *-i̯a* in *parað-i̯ú* and *paráð-i̯a* (IC8). On the other, inflection can be both stem-based, see *xtin-* (IC5), and word-based, see *fti* (IC6). In these terms, Cappadocian noun inflection has both fusional and agglutinative traits. Crucially, the two agglutinative traits meet in IC7. Within this class, all inflected forms of the nominal paradigm are put together by suffixing the mono-exponential *-i̯u* and *-i̯a* to the base (9).

(9) IC7

SG	NOM/ACC	*spit*	"house"
	GEN	*spit-i̯ú*	
PL	NOM/ACC	*spít-i̯a*	
	GEN	*spit-i̯ú*	

IC7 can therefore be considered as the most agglutinative-like class in an otherwise mixed inflectional system.

4.2 Semantic associations

The distribution of Cappadocian nouns into ICs is *prima facie* arbitrary in that the IC of a noun belonging to the inherited Greek lexical stock cannot be predicted by phonological or semantic properties such as the segmental shape of its stem, stress, or meaning. However, when examined in terms of the semantic homogeneity (or, heterogeneity) of their members, a number of interesting generalisations come to light.

Table 3 shows the distribution of the 690 noun types that occur in the Cappadocian texts published by Dawkins (1916: 304–465) across the nine ICs with respect to the tripartite animacy distinction between human, animal and inanimate referents. As shown in the table, ICs 1 and 4 are the classes in which nouns denoting prototypical male and female entities are respectively found ("brother", "monk", "king"; "sister", "woman", "bride"). Both, however, also contain large numbers of inanimate and animal nouns. In contrast, the remaining ICs display higher degrees of semantic homogeneity. ICs 2 and 3 for the most part contain male human nouns whereas the overwhelming majority of nouns belonging to ICs 5, 6, 7, 8 and 9 denote inanimate and animal entities. The number of human members in these classes is very low. For example, no human nouns belong to IC5 while only inanimate nouns inflect according to IC9. The table also highlights the differences in class size: IC7 is by far the largest class in the system while IC3 emerges as the smallest class.

Table 3. The semantic distribution of noun types among the Cappadocian inflectional classes (based on Dawkins 1916).

		N	%
IC1	HUMAN (MALE) *aðelfós* "brother", *kalójoros* "monk", *vasiʎós* "king"	25	52.1
	NON-HUMAN ANIMATE *laɣós* "hare", *líkos* "wolf", *pondikós* "mouse"	6	12.5
	INANIMATE *çimós* "winter", *ɣámos* "wedding", *mílos* "mill"	17	35.4
	Total:	**48**	**100**
IC2	HUMAN (MALE) *aféndis* "master", *despótis* "bishop", *kléftis* "thief"	39	90.7
	NON-HUMAN ANIMATE *aslánis* "lion", *kaplánis* "tiger"	2	4.7
	INANIMATE *ʃcáris* "shadow", *mínas* "month"	2	4.7
	Total:	**43**	**100**
IC3	HUMAN (MALE) *ándras* "man", *papás* "priest"	9	60.0
	NON-HUMAN ANIMATE *qarɣás* "crow"	1	6.7
	INANIMATE *ainás* "mirror", *namás* "prayer", *dʒiɣás* "pair"	5	33.3
	Total:	**15**	**100**
IC4	HUMAN (FEMALE) *aðelfí* "sister", *néka* "woman", *níf(i)* "bride"	14	14.4
	NON-HUMAN ANIMATE *alipíka* "fox", *múja* "fly", *pisíka* "cat"	9	9.3

	INANIMATE *líra* “pound”, *nevlí* “yard”, *θíra* “door”	74	76.3
	Total:	**97**	**100**
IC5	HUMAN	0	0.0
	NON-HUMAN ANIMATE *álo˛o* “horse”, *próvato* “sheep”	2	10.0
	INANIMATE *leró* “water”, *ór˛o* “work”, *xor˛ó* “village”	28	90.0
	Total:	**30**	**100**
IC6	HUMAN *peðí* “child”	1	4.0
	NON-HUMAN ANIMATE *arní* “lamb”, *pulí* “bird”, *ʃcilí* “dog”	4	16.0
	INANIMATE *fti* “ear”, *psomí* “bread”, *xartí* “letter”	20	80.0
	Total:	**25**	**100**
IC7	HUMAN *korítʃ* “girl”, *ŋgon* “grandchild”	24	7.5
	NON-HUMAN ANIMATE *fið* “snake”, *psar* “fish”, *voð* “ox”	26	8.2
	INANIMATE *fkal* “head”, *spit* “house”, *ʒimár* “dough”	269	84.3
	Total:	**319**	**100**
IC8	HUMAN *cysé* “baldie”, *dʒaduˊ* “witch”, *karuˊ* “woman”	6	6.7
	NON-HUMAN ANIMATE *devé* “camel”, *taná* “calf”, *tazuˊ* “greyhound”	8	8.9

	INANIMATE	76	84.4
	odá “room”, *pará* “money”, *quʝí* “well”		
	Total:	**90**	**100**
IC9	HUMAN	0	0.0
	NON-HUMAN ANIMATE	0	0.0
	INANIMATE	23	100.0
	ʝélma “wheat”, *oima* “blood”, *ónoma* “name”		
	Total:	**23**	**100**
	SUM:	**690**	**100**

This distribution allows us to postulate three generalisations (in the sense of Gardani 2013: 52–53) that capture the associations between IC and semantic type in Cappadocian. The generalisations are meant to capture tendencies and not absolute correlations:

Generalisation 1: nouns denoting male animate entities tend to belong to ICs 1, 2 and 3.
Generalisation 2: nouns denoting female animate entities tend to belong to IC4.
Generalisation 3: nouns denoting inanimate entities tend to belong to ICs 5, 6, 7, 8 and 9.

A corollary from these formulations is that nouns may be considered prototypical or non-prototypical members of the IC they belong to, depending on their semantic content (on prototypicality in Greek noun inflection, see Anastassiadis-Symeonidis & Chila-Markopoulou 2003). For example, *aðelfós* “brother” and *vasiʎós* “king” are prototypical members of IC1 because they denote male animate entities. In contrast, *mílos* “mill” and *çimós* “winter” are non-prototypical members because they are inanimate. Similarly, *mána* “mother” and *néka* “woman” are prototypical IC4 nouns while *stráta* “road” and *laxtilíða* “ring” are not. The semantically appropriate class for *mílos*, *çimós*, *stráta* and *laxtilíða* would be one of the ICs 5, 6, 7, 8 or 9. Along the same lines, *spit* “house” and *ʒimár* “dough” are prototypical members of IC7 but *korítʃ* “girl” is not. From its meaning, *korítʃ* ‘ought’ to be an IC4 noun.

Further evidence for the correlations comes from the morphological adaptation of Turkish loans into the Cappadocian nominal system. As shown in (10)–(12), the semantic type of the Turkish original is the primary factor that conditions which IC the Cappadocian copy will belong to. The secondary factor is phonological shape. Specifically, nouns denoting male entities join ICs 1, 2 and 3. Those that end in a consonant mainly join IC2 and, to a lesser extent, IC1 (10a); those that end in a vowel are only found in IC3 (10b). Nouns denoting female entities are generally assigned to IC4, with a limited number in IC8 (11). Inanimate nouns are overwhelmingly assigned to ICs 7 and 8 depending on their final segment. Those ending in a consonant are assigned to IC7 (12a) and those that end in a vowel are assigned to IC8 (12b) with the exception of a few nouns that end in /i/ or /ɯ/, which are assigned to IC6 (12c).

(10) male animate

a. ending in a consonant

Turkish		Cappadocian	
insan	"man"	*insános*	[IC1]
derviş	"dervish"	*devréʃis*	[IC2]

b. ending in a vowel

Turkish		Cappadocian	
hoca	"teacher"	*xódʒas*	[IC3]
zaptiye	"policeman"	*zaptçes*	[IC3]

(11) female animate

Turkish		Cappadocian	
baldız	"sister-in-law"	*balduˊza*	[IC4]
cadı	"witch"	*dʒaduˊsa*	[IC4]
karı	"wife"	*karɯˊ*	[IC8]

(12) inanimate

a. ending in a consonant

Turkish		Cappadocian	
hoşaf	"compote"	*xoʃáf*	[IC7]
ses	"voice"	*ses*	[IC7]

b. ending in a vowel

Turkish		Cappadocian	
para	"money"	*pará*	[IC8]
yazı	"open country"	*jazí*	[IC8]

c. some nouns ending in /i/ or /ɯ/

Turkish		Cappadocian	
cami	"mosque"	*dʒamí*	[IC6]
halı	"carpet"	*xalí*	[IC6]

Additional corroboration of the association between the inanimate semantic type and IC7 is found in the diachronic shifts of nouns into these two classes from other Cappadocian ICs. Examples are given in (13).

(13) a.	*troxós*	"wheel"	[IC1]	>	*tróx*	[IC7]
b.	*θíra*	"door"	[IC4]	>	*θir*	[IC7]
c.	*ráçi*	"back"	[IC4]	>	*trái*	[IC7]
d.	*velóni*	"needle"	[IC4]	>	*volón*	[IC7]

Most recorded cases involve nouns denoting inanimate entities that originally belonged to prototypically male and female animate classes. Combined with the loanword adaptation data,

these shifts point towards a strong diachronic tendency in Greek for nouns denoting inanimate entities to belong to IC7. As argued in the next section, this tendency played a key role in the development of agglutinative inflection as well.

5. A new proposal: Morphological convergence through inflectional class shifts

5.1 The synchronic status of agglutinative forms

5.1.1 *[word + {-i̯u, -i̯a}]: A typologically conservative innovation*

In 3.2, two distinct types of agglutinative formations were identified: (a) [word+ {*-i̯u*, *-i̯a*}] and (b) [stem + *-es* + *-i̯u*], both of which have been previously viewed as radical departures from the structural properties that Greek noun inflection is traditionally thought to have. Focusing first on the former, scholars who adhere to the standard analysis have long pointed out that forms such as *ɣámuz-i̯u* "wedding-GEN" and *ɣámuz-i̯a* "wedding-PL" show morpheme-by-morpheme intertranslatability with corresponding inflected forms in Turkish. Compare the pairs in (14). In both languages, genitive and plural forms are put together by suffixing mono-exponential formatives to the respective base. Previous studies present this as a contact-induced innovation, conclusive evidence that Cappadocian developed agglutinative inflection — which it did not have before — under the influence of Turkish.

(14) "wedding"

a. GEN

	base	NUMBER: singular	CASE: genitive
Cappadocian	*ɣámus*	*-∅*	*-i̯u*
Turkish	*düğün*	*-∅*	*-ün*

b. PL

	base	NUMBER: plural	CASE: genitive
Cappadocian	*ɣámus*	*-i̯a*	—
Turkish	*düğün*	*-ler*	(*-in*)

Those studies, however, fail to acknowledge three crucial facts: (a) Cappadocian inflection displayed both these agglutinative traits prior to the development of agglutinative forms; (b) the [word+ {*-i̯u*, *-i̯a*}] type conforms to the morphological structure that inflected forms of nouns generally have in Cappadocian, namely [stem/word + inflectional suffix] (7), and is therefore a typologically conservative innovation in the sense of Dressler (2003); and, (c) the kind of structural isomorphism illustrated in (14) also characterises the inflected forms of IC7 nouns in all Cappadocian varieties, both in those that have undergone the morphological innovation in question and those that have not. Consider the parallelism between the inflected forms of IC7 *spit* "house" and its Turkish equivalent in (15).

(15) "house"

a. GEN

	base	NUMBER: singular	CASE: genitive
Cappadocian	*spit*	*-∅*	*-i̯ú*

Turkish	*ev*	*-∅*	*-in*

b. PL

	base	NUMBER: plural	CASE: genitive
Cappadocian	*spít*	*-i̯a*	—
Turkish	*ev*	*-ler*	(*-in*)

It is thus clear that morpheme-by-morpheme intertranslatability between certain inflected forms in Cappadocian and their Turkish equivalents pre-dated the development of agglutinative forms.

The similarity between agglutinative nouns such as *ɣámus*, whose Greek etymon belonged historically to IC1, and IC7 nouns such as *spit* in terms of their correspondence to Turkish suggests that there is a close relation between them. Indeed, comparison of their paradigms in (16) reveals that the full set of NUMBER/CASE combinations is expressed by the same set of endings in the inflection of both. Inflection in both cases applies to the word and there is no stem allomorphy.

(16) Mistí Cappadocian

		a. "wedding"	b. "house"
SG	NOM/ACC	*ɣámus*	*spit*
	GEN	*ɣámuz-i̯u*	*spit-i̯ú*
PL	NOM/ACC	*ɣámuz-i̯a*	*spít-i̯a*
	GEN	*ɣámuz-i̯u*	*spit-i̯ú*

(Dawkins 1916: 102)

On this basis, I conclude that the two nouns belong synchronically to the same IC, namely IC7. Diachronically, this means that the [word+ {*-i̯u*, *-i̯a*}] type is the result of a shift of nouns from their historical ICS to IC7. In *ɣámus* and other nouns like it, which — as mentioned in 3.2 — employ both *-i̯u* and *-i̯a* in their paradigms, the shift is complete. In the case of nouns such as *tʃobános* "shepherd" and *çimos* "winter" that only employ one of the two formatives (5), the shift is partial. As for the structural isomorphism between the inflectional paradigms of nouns falling under the [word+ {*-i̯u*, *-i̯a*}] type and their Turkish equivalents, this is but a repercussion of their shifting from their historical ICs to the agglutinative-like IC7, which already displayed this property in all the cells of its inflectional paradigm.

5.1.2 *[stem* + -es + -i̯u*]: A typologically innovative formation*

Unlike [word+ {*-i̯u*, *-i̯a*}], the [stem + *-es* + *-i̯u*] type constitutes a radical departure from the inherited structural properties of Cappadocian noun inflection. We have repeatedly seen that the morphological structure of inflected forms in the language has only one slot for the marking of NUMBER, CASE and IC. In [stem + *-es* + *-i̯u*] forms, however, the three features are distributed across two slots: NUMBER and IC are cumulatively marked by *-es* whereas CASE is mono-exponentially marked by *-i̯u* (17). This indicates an innovative morphological structure [stem + {NUMBER, IC} + CASE].

(17) [*nec-* + *-es* + *-i̯u*]
"woman" NUMBER: plural CASE: genitive
IC: IC4 IC: IC3a, IC4

The novel morphological structure is made possible by the feature specification of the two formatives involved. *-es* is the formative that syncretically marks NOM.PL and ACC.PL in ICs 2 and 3. It is therefore inherently specified for NUMBER and IC, which licenses its suffixation to stems that share the same IC specification. There is, however, no specification for CASE due to syncretism, similarly to *-i̯a*. This makes possible the further addition of *-i̯u*, which marks the genitive value for CASE mono-exponentially and bears no inherent specification either for NUMBER or for IC. The combination of the two results in a novel GEN.PL form, an addition to the Cappadocian inflectional system. Recall that inherited GEN.PL forms are either obsolete or fail to express the distinction between singular and plural. [stem + *-es* + *-i̯u*] forms do not.

The morphological structure in (17) has no parallels in the history of Greek and its varieties. At the same time, the similarity with Turkish first pointed out by Dawkins (1916) is difficult to ignore. As illustrated in (18), Cappadocian and Turkish GEN.PL forms display the same linear configuration for the expression of lexical meaning and for the serial marking of plural number and genitive case, which lends support to the standard analysis that views language contact with Turkish as the single factor that led to this particular development.

(18)		stem/base	NUMBER: plural	CASE: genitive
a.	Cappadocian	*néc-* "woman"	*-es*	*-i̯u*
b.	Turkish	*kız* "girl"	*-lar*	*-ın*

However, it has to be borne in mind that the correspondence between the two languages is not complete. The only part of the configuration in which the two languages overlap fully is the mono-exponential marking of CASE by *-i̯u* and *-(n)In*. Otherwise, Turkish *kız* is a base, Cappadocian *nec-* is a stem. In addition, Turkish *-LAr* marks NUMBER mono-exponentially, Cappadocian *-es* marks NUMBER poly-exponentially alongside IC.

Compared with the [word+ {*-i̯u*, *-i̯a*}] type, the development of [stem + *-es* + *-i̯u*] forms qualifies as a typologically innovative change in the sense of Dressler (2003). However, being attested only with IC3 and IC4 nouns, [stem + *-es* + *-i̯u*] forms have limited distribution within the Cappadocian inflectional system while there are no indications that the [stem + {NUMBER, IC} + CASE] structure tends to extend to nouns belonging to other ICs. On this basis, the two types of agglutinative formation do not support the idea of a large-scale typological shift from fusion to agglutination. In that, I side with Ralli: "we cannot conclude that the entire Cappadocian nominal system has been turned into agglutinative, since there are nouns, which do not show any agglutination" (2009: 102). At best, [word+ {*-i̯u*, *-i̯a*}] and [stem + *-es* + *-i̯u*] forms can be thought of as minor agglutinative-like patterns that deviate from the principally fusional inflection that is distinctive of all Cappadocian varieties.[8]

5.2 The diachrony of IC6 shifts

[8] As a reviewer correctly notes, even English shows some agglutinative-like structure in forms like possessive plural *oxen's* or *children's* (base *ox* + PL *-en* + POSS *'s*). It is therefore possible to find instances of agglutinativity in what are generally taken to be non-agglutinative languages.

5.2.1 *The first manifestations of the innovation*

The Cappadocian linguistic record reveals that, at the earliest stages, shifts to IC7 were conditioned by two system-internal factors: (a) the semantic content of the noun, and (b) its phonological shape. In the varieties of Malakopí and Sílata, in which shifts have the most limited distribution within the inflectional system, novel IC7 paradigms are only found with nouns that (a) denote inanimate entities, and (b) end in a consonant in the NOM.SG. In other words, in these two conservatively innovative varieties, only nouns that resemble prototypical members of IC7 with respect to both their semantics and their base form phonology undergo shift. For the most part, the change affects inanimate members of IC1; examples include *mílos* "mill", *qámus* "wedding" and *ʃimós* "winter". In addition to these, we also find a few IC4 nouns having developed novel inflectional forms including *rex* "back" (< *réçi*) and *stroʃ* "bed" (< *stroʃi*).

The two system-internal conditions account for the early manifestation of the phenomenon as it is attested in Malakopí and Sílata not only in terms of the positive evidence, that is, the nouns that do shift to IC7, but also in terms of the negative evidence, that is, the nouns that fail to do so. No cases of shift are found in any of the two varieties that involve nouns denoting human or non-human animate entities, which lends support to the semantic similarity hypothesis. Inanimate nouns that remain in IC4 without shifting to IC7, like Sílata *laxtilíða* "ring" and *kloʃtí* "thread" (Dawkins 1916: 442, 444), all end in a vowel in the NOM/ACC.SG. This corroborates the phonological similarity hypothesis.

There is evidence that nouns do not shift to IC7 in one go. At this stage, the plural subparadigm shifts first, the singular one following suit. Unsurprisingly, when a noun first develops IC7 forms, these exist in variation with inherited IC1 and IC4 forms. In Malakopí, the singular of inanimate IC1 nouns shows inherited IC1 inflection. The plural, however, fluctuates between inherited forms and innovative IC7 forms (19). In Sílata, variation is found in both the singular and the plural. This stage, exemplified in (20), can be considered as the one that precedes the complete shift to IC7 and the abandonment of inherited inflection.

(19) Malakopí Cappadocian

SG	NOM	*qám-us*	"wedding"
	ACC	*qám-u*	
PL	NOM/ACC	*qám-(u)s* [IC1] ~ *qámuz-i̯a* [IC7]	

(Dawkins 1916: 99)

(20) Sílata Cappadocian

		a. IC1 inflection		b. IC7 inflection
SG	NOM	*míl-os*	"mill"	*mílos*
	ACC	*míl-o*		*mílos*
	GEN	—		*míloz-i̯u*
PL	NOM/ACC	*míl-us*		*míloz-i̯a*

(Dawkins 1916: 98)

The Malakopí and Sílata data support the idea that one of the forces driving the early stages of the innovation is the diachronic tendency in Greek for nouns denoting inanimate entities to belong to one of the ICs associated with that semantic type and preferably to IC7 (see §4.2). That this tendency underpins the incipient shifts is supported by the fact that all the nouns that develop

innovative IC7 forms in these varieties are non-prototypical members of their historical ICs. Malakopí *qámus* and Sílata *mílos* originate in IC1, the class to which nouns denoting male entities are prototypically found. *Rex* and *stroʃ* historically belong to the prototypically female IC4. On this account, I argue that the shifts to IC7 were initially triggered in order to repair instances of deviation from the prototypical tendencies of the Cappadocian inflectional system by assigning inanimate, hence non-prototypical, members of the prototypically animate ICs 1 and 4 to the semantically appropriate, overwhelmingly homogeneous and largest class, IC7.

The data in (19) and (20) further show that the segmental similarity between IC1, IC4 and IC7 base forms also played a key role in early shifts. The final *-s* of IC1 NOM.SG forms (*qámus*, *mílos*) and the final consonants in IC3 NOM/ACC.SG forms (*rex*, *stroʃ*) were taken as one of the many consonants in which IC7 NOM/ACC.SG forms end. On this basis, NOM.SG forms of IC1 nouns consisting of a bound stem and of the suffix *-os* (or *-us* in the varieties that raise unstressed /o/ to [u]) and zero-marked NOM/ACC.SG forms of IC4 nouns such as *stroʃ(i)-∅* were reanalysed as zero-marked IC7 NOM/ACC.SG forms (Janse 2004: 9). The reanalysis is illustrated in Figure 2.

a.	[*mil-*	+	*-os*]	→	*mílos-∅*
	"mill"		NUMBER: singular		"mill"
	IC: IC1		CASE: nominative		IC: IC7
			IC: IC1		

b.	*stroʃ(i)-∅*	→	*stroʃ-∅*
	"bed"		"bed"
	IC: IC4		IC: IC7

Figure 2. The reanalysis of IC1 and IC3 base forms as IC7 base forms.

5.2.2 *The spread of the innovation in the inflectional system*
In the more advanced varieties, the two system-internal factors that conditioned the shift in Malakopí and Sílata begin to collapse. In Araván, Ghúrzono, Mistí and Phloïtá, the semantic similarity condition is found to be no longer operative as IC7 attracts not only inanimate nouns but also nouns that denote human as well as non-human animate entities so long as they end in a consonant in the NOM.SG; for example, we find innovative IC7 forms for *anáporos* "pauper", *áropos* "man", *ɟákos* "deacon", *ɟáskalos* "teacher", *ɟóros* "old man", *laɣós* "hare", *líkos* "wolf", *tʃobános* "shepherd" and *tʃolaxós* "spider", all of which belong historically to IC1. In these varieties, phonological similarity is the only factor that conditions IC shifts.

As in Malakopí and Sílata, innovative IC7 forms initially exist in variation with inherited inflection. Araván *áropos* displays two competing inflectional paradigms: the inherited IC1 paradigm (21a) and a novel IC7 paradigm (21b). Ghúrzono *tʃolaxós*, though, has shifted completely to IC7 (22). These varieties therefore illustrate the disruption of the correlation between prototypical semantic content and inflection in IC7. Until this stage, the class overwhelmingly contained inanimate nouns. From this stage onwards, nouns of all semantic types may inflect according to IC7.

(21) Araván Cappadocian

		a. IC1 inflection		b. IC7 inflection
SG	NOM	*árop-os*	"man"	*áropos*
	ACC	*árop-ona*[9]		*áropos*
	GEN	*aróp(-u)*		*áropoz-i̯u*
PL	NOM/ACC	*aróp(-i)*		*áropoz-i̯a*

(Dawkins 1916: 104)

(22) Ghúrzono Cappadocian

SG	NOM/ACC	*tʃolaxós*	"spider"
	GEN	*tʃolaxoz-i̯ú*	
PL	NOM/ACC	*tʃolaxóz-i̯a*	

(Dawkins 1916: 106)

Finally, the phonological similarity condition is completely abandoned in Axó, Ferték, Semenderé and Ulaghátsh. Here even NOM/ACC.SG forms that end in vowels are reanalysed as IC7 bases, and nouns that belong to the whole range of Cappadocian ICs begin to display IC7 forms, wholly or partially. Ferték *néka* "woman" (23a) is a historical IC4 noun that only forms the NOM/ACC.PL according to its inherited inflection. The singular is formed according to IC7 while the GEN.PL is innovatively formed according to the [stem + *-es* + *-i̯u*] type. Axó *kʃístro* "scraper" (23b) is a historical IC5 noun whose singular and GEN.SG/PL display innovative IC7 forms, while its NOM/ACC.PL shows variation between inherited and innovative inflection. In Ulaghátsh, *qarɯmdʒá* "ant" (23c), a historical IC8 noun, has shifted completely to IC7 while *púma* "cover" (23d) shows innovative inflection in the singular and inherited IC9 inflection in the plural. Observe that, unlike in the early shifts that we saw in Malakopí and Sílata, it is the singular subparadigm GEN.SG/PL that first shifts to IC6 at the advanced stages of the change. NOM/ACC.PL forms appear to be more resistant here. As a result, even the distinctive phonological characteristics of IC7 nouns, namely consonant-ending base forms, become severely blurred in these varieties.

(23) a. Ferték Cappadocian

SG	NOM/ACC	*néka*	"woman"
	GEN	*néka-i̯u*	
PL	NOM/ACC	*néc-es*	
	GEN	*néc-ez-i̯u*	

(Dawkins 1916: 114)

b. Axó Cappadocian

SG	NOM/ACC	*kʃístro*	"scraper"
	GEN	*kʃístro-i̯u*	

[9] In Araván, the IC1 ACC.SG suffix *-o* is extended by the addition of a formative *-na* (Dawkins 1916: 104). For a proposal on the origin of this formation and its relation to other Modern Greek dialects, see Kim (2008).

PL NOM/ACC *kʃístr-a* [IC4] ~ *kʃístro-i̯a* [IC6]
GEN *kʃístro-i̯u*
(Mavrochalyvidis & Kesisoglou 1960: 41)

c. Ulaghátsch Cappadocian
SG NOM/ACC *qarɯmdʒá* "ant"
GEN *qarɯmdʒa-i̯ú*
PL NOM/ACC *qarɯmdʒá-i̯a*
(Dawkins 1916: 110)

d. Ulaghátsh Cappadocian
SG NOM/ACC *púma* "cover"
GEN *púma-i̯u*
PL NOM/ACC *púmat-a*
(Dawkins 1916: 93)

5.2.3 *The role of language contact*
One question that arises concerns the path that shifts to IC7 followed within the distinct Cappadocian varieties. That is, why do shifts not occur in Delmesó or Potámia; why are they restrictively found in Malakopí and Sílata and attested more extensively in Araván and Ghúrzono; and, finally, why are the most advanced stages of the innovation represented by Semenderé and Ulaghátsh? The answer seems to lie in the different degrees to which Cappadocian varieties were influenced by language contact with Turkish. Dawkins (1916) comments on the nature and extent of Cappadocian–Turkish bilingualism in Cappadocian villages. For example, he writes about Delmesó that "the position of the village, much further from Nigde than Ferték, Ghúrzono and Araván, ha[s] kept the dialect comparatively free from the influence of Turkish" (Dawkins 1916: 13). On Ferték, he comments:

> The use of the dialect is … almost confined to the women and children, and as Turkish women often come to the Greek houses to help in house-work, the women also are apt to acquire the habit of talking Turkish amongst themselves as well as to their husbands, which materially helps the decline of the dialect (Dawkins 1916: 14-15).

Dawkins correlates these sociolinguistic observations with lesser and greater degrees of contact-induced innovation in the respective varieties. The result is a classification of the Cappadocian varieties into five groups (I–V) that can be thought of as forming the continuum in Figure 3. At the left end, we find varieties considered less influenced by Turkish. At the right, we find those "where the Turkish element is at its strongest" (Dawkins 1916: 209). A reviewer observes that, with the exception of Delmesó, Turkish influence is greater in those villages that are closer to Niğde, which they identify as the centre of Turkish influence. In some cases, the degree of Turkish influence seems to be related to the proportion of Christian (hence Greek-speaking) and Muslim (hence Turkish-speaking) inhabitants in a given village. For example, in Ferték, Dawkins (1916: 14) reports 1100 Christian inhabitants and 2000 Muslim inhabitants. The relation, however, is by no means absolute as there are notable counterexamples most notably

Ghúrzono and Mistí, neither of which had any Turkish inhabitants. Both were "purely Christian village[s]" (Dawkins 1916: 17).

Figure 3. Dawkins's (1916) classification of the Cappadocian varieties based on the extent of Turkish influence.

The comparison of Dawkins's classification with the analysis presented above reveals an association between the two. Shifts to IC7 are absent from Group I varieties; they first become manifest in Group II varieties; they progress even further in Group III and IV varieties; and, reach the most advanced stage in Group V varieties. Such a pattern of association suggests that one motivation, and quite possibly even a trigger, that drove the morphological innovation was the tendency to achieve morpheme-by-morpheme intertranslatability between the two contact languages that has been recorded in numerous settings of extensive bilingualism (Gumperz & Wilson 1971, Ross 1997, Heine & Kuteva 2005: 179-182, Aikhenvald 2007: 28-29, Matras 2009: 258-265).

In Cappadocian, the tendency was implemented by shifting nouns from ICs in which inflected forms did not display morpheme-by-morpheme intertranslatability with corresponding forms in Turkish with respect to marker exponence and the word-based inflection to the one Cappadocian IC that was perceived as bearing the highest number of morphological similarities with the inflectional paradigm of Turkish nouns in those two respects. This adjusts the assumption of the standard analysis as it shows that language contact was one of the forces that drove change but also that change did not happen in a disorderly fashion, but was conditioned by factors pertaining to the inherited structural properties of Cappadocian noun inflection, at least at the earliest diachronic stages of the development.

6. Conclusions

In this study, I have revisited the so-called agglutinative inflection in Cappadocian from both a synchronic and a diachronic perspective. I identified two types of innovative morphological formation, [word + {*-i̯u*, *-i̯a*}] and [stem + *-es* + *-i̯u*], both of which display superficial structural isomorphism with corresponding inflected noun forms in Turkish. I showed, however, that they differ with respect to the degree to which they depart from the inherited structural properties of Cappadocian noun inflection. The former is rather conservative, the latter more innovative.

As far as [word + {-i̯u, -i̯a}] is concerned, I provided evidence to support the idea that nouns that display inflected forms of this type in their paradigms, in whole or in part, belong synchronically to IC7. On this basis, I accounted for the innovation at hand as the result of the diachronic shift of (parts of) nouns from their historical ICs to IC7. I subsequently argued that the shifts were driven by the preference of Cappadocian-Turkish bilingual speakers for morpheme-by-morpheme intertranslatability between corresponding inflected forms in their two languages. This was gradually arrived at in combination with the inherited Greek tendency for nouns that denote inanimate entities to belong to IC7. IC7 was the ideal class in the Cappadocian inflectional system to satisfy the bilinguals' preference, as it was the only one to display agglutinative-like — therefore Turkish-like — properties in terms of formative exponence and the stem- vs. word-based inflection distinction.

At the earliest attested stages, only nouns that resembled the prototypical members of IC7 in terms of their semantic content (inanimate) and their phonological shape (consonant-ending NOM.SG) underwent shift. The innovation was implemented by reanalysing NOM.SG forms of non-IC7 nouns as IC7 NOM/ACC.SG forms and then inflecting them accordingly in the GEN.SG/PL and/or the NOM/ACC.PL cells. At a later stage, IC7 started to attract nouns that did not fulfill the semantic similarity and/or the phonological similarity condition, which were operative in the incipient stages. As a result, larger numbers of nouns shifted to IC7 in certain Cappadocian varieties, irrespective of their meaning or the final segment of their base form. Following the shifts, the inflectional paradigms of increasing numbers of nouns converged with Turkish nouns.

The tendency to converge, naturally stronger in those varieties whose speakers displayed higher levels of bilingualism, also lies at the heart of GEN.PL forms of the [stem + *-es* + *-i̯u*] type, which displays the same linear configuration for the serial marking of plural number and genitive case as Turkish GEN.PL forms. However, this formation, too, was made possible thanks to two language-internal factors: the neutralisation of the specification for CASE in *-es* and of that for NUMBER and IC in *-i̯u*.

In conclusion, the development of so-called agglutinative inflectional morphology represents yet another instance of multiple causation in which language-internal dynamics paved the way for, and shaped the trajectory of a change that was set in motion by language contact. In that, I hope the study has offered a more unified account of the Cappadocian morphological innovation.

References

Aikhenvald, Alexandra Y. 2007. Grammars in contact: A cross-linguistic perspective. In Alexandra Y. Aikhenvald & R. M. W. Dixon (eds.), *Grammar in contact: A cross-linguistic perspective*, 1–66. Oxford: Oxford University Press.

Alektoridis, Anastasios S. 1833. Lexilogion tou en Fertakainois tis Kappadokias glossikou idiomatos [Glossary of the Cappadocian dialect of Ferték]. *Deltion Istorikis Ethnologikis Etaireias* [Historical and Ethnological Society Bulletin] 1. 480–508.

Anastasiadis-Symeonidis, Anna & Despina Chila-Markopoulou. 2003. Synchronikes kai diachronikes taseis sto genos tis ellinikis: Mia theoritiki proseggisi [Synchronic and diachronic tendencies in the gender of Greek: a theoretical approach. In Anna Anastassiadis-Symeonidis, Angela Ralli & Despina Chila-Markopoulou (eds.), *To Genos* [Gender], 13–56. Athens: Patakis.

Anderson, Stephen R. 1985. Typological distinctions in word formation. In Timothy Shopen (ed.), *Language typology and syntactic description. Volume III*, 3–56. Cambridge: Cambridge University Press.
Aronoff, Mark. 1994. *Morphology by itself: Stems and inflectional classes*. Cambridge, MA: MIT Press.
Backus, Ad. 2005. Codeswitching and language change: One thing leads to another? *International Journal of Bilingualism* 9(3–4). 307–340.
Bauer, Laurie. 1988. *Introducing linguistic morphology*. Edinburgh: Edinburgh University Press.
Chamoreau, Claudine & Isabelle Léglise. 2012. A multi-model approach to contact-induced language change. In Claudine Chamoreau & Isabelle Léglise (eds.), *Dynamics of contact-induced language change*, 1–15. Berlin: De Gruyter Mouton.
Clyne, Michael G. 2003. *Dynamics of language contact: English and immigrant languages*. Cambridge: Cambridge University Press.
Costakis, Athanasios P. 1959. *Glossikon ylikon ek katoikon toy choriou Misthi Kappadokias engatestimenon nyn eis Agioneri Axioupoleos Makedonias* [Linguistic material from the inhabitants of the Cappadocian village of Misthi that now reside in the village of Agioneri in Axioupolis of the Macedonia Prefecture]. Manuscript № 755. Research Centre for Modern Greek Dialects (I.L.N.E.), Academy of Athens.
Costakis, Athanasios P. 1962. *Glossikon ylikon apo ta Flogita Chalkidikis (prosfygikon chorion)* [Linguistic material from the village of Flogita of the Chalkidiki Prefecture (refugee village)]. Manuscript № 812. Research Centre for Modern Greek Dialects (I.L.N.E.), Academy of Athens.
Costakis, Athansios P. 1963. *Glossiko yliko apo to Misti Kappadokias (apo prosfyges sto chorio Thomai (: Mandra) Larisis)* [Linguistic material from the Cappadocian village of Misti (from the refugees of the village of Thomai (: Mandra) of the Larissa Prefecture]. Manuscript № 826. Research Centre for Modern Greek Dialects (I.L.N.E.), Academy of Athens.
Costakis, Athanasios P. 1964. *Le parler grec d'Anakou*. Athens: Centre for Asia Minor Studies.
Costakis, Athanasios P. 1967. *Glossiki yli ek Kappadokias (Misti – Dila)* [Linguistic material from Cappadocia (Misti – Dila)]. Manuscript № 887. Research Centre for Modern Greek Dialects (I.L.N.E.), Academy of Athens.
Croft, William. 2000. *Explaining language change: An evolutionary approach*. Harlow: Longman.
Dawkins, Richard M. 1916. *Modern Greek in Asia Minor: A study of the dialects of Sílli, Cappadocia and Phárasa with grammar, texts, translations and glossary*. Cambridge: Cambridge University Press.
Dorian, Nancy C. 1993. Internally and externally motivated change in language contact settings: Doubts about dichotomy. In Charles Jones (ed.), *Historical linguistics: Problems and perspectives*, 131–155. Harlow: Longman.
Dressler, Wolfgang U. 2003. Naturalness and morphological change. In Brian D. Joseph & Richard D. Janda (eds.), *The handbook of historical linguistics*, 461–471. Malden, MA: Blackwell.
Drinka, Bridget. 2010. Language contact. In Silvia Luraghi & Vit Bubenik (eds.), *The Continuum companion to historical linguistics*, 325–345. London: Continuum.
Farrar, Kimberley & Mari C. Jones. 2002. Introduction. In Mari C. Jones & Edith Esch (eds.), *Language change: The interplay of internal, external and extra-linguistic factors*, 1–16. Berlin: Mouton de Gruyter.

Fates, Thomas. 2012. *Chiogos as si charis: Ekmathisi tou mistiotikou idiomatos (anef didaskalou)* [May God bless you: A course in the Mistiot dialect (without a teacher)]. Konitsa: n.p.
Fosteris, Dimitrios & Ioannis I. Kesisoglou. 1960. *Lexilogio tou Aravani (Vocabulaire d'Aravani)*. Athens: Institut Français d'Athènes.
Fraser, Norman M. & Greville G. Corbett. 1995. Gender, animacy, and declensional class assignment: A unified account for Russian. In Geert Booij & Jaap van Marle (eds.), *Yearbook of Morphology 1994*, 123–150. Dordrecht: Springer.
Gardani, Francesco. 2008. *Borrowing of Inflectional Morphemes in Language Contact*. Frankfurt am Main: Peter Lang.
Gardani, Francesco. 2013. *Dynamics of Morphological Productivity: The Evolution of Noun Classes from Latin to Italian*. Leiden: Brill.
Gumperz, John J. & Robert Wilson. 1971. Convergence and creolization: A case from the Indo-Aryan/Dravidian border in India. In Dell Hymes (ed.), *Pidginization and creolization of languages: Proceedings of a conference held at the University of the West Indies, Mona, Jamaica, April 1968*, 151–167. Cambridge: Cambridge University Press.
Haspelmath, Martin. 2009. An empirical test of the Agglutination Hypothesis. In Sergio Scales, Elisabetta Magni & Antonietta Bisetto (eds.), *Universals of language today*, 13–29. Dordrecht: Springer.
Heine, Bernd & Tania Kuteva. 2005. *Language contact and grammatical change*. Cambridge: Cambridge University Press.
Henrich, Günther S. 1976. *Klitikes kai genikes se* -o *apo arsenika se* -os *sta Mesaionika kai Nea Ellinika* [Vocative and genitive forms in *-o* from masculines in *-os* in Medieval and Modern Greek]. Thessaloniki: Aristotle University of Thessaloniki dissertation.
Hickey, Raymond. 2010. Language contact: reconsideration and reassessment. In Raymond Hickey (ed.), *The handbook of language contact*, 1-28. Oxford: Wiley-Blackwell.
Horrocks, Geoffrey. 2010. *Greek: A history of the language and its speakers*. Oxford: Wiley-Blackwell.
Janse, Mark. 2001. Morphological borrowing in Asia Minor Greek. In Yoryia Aggouraki, Amalia Arvaniti, Jim Davy, Dionysis Goutsos, Marilena Karyolaimou, Anna Panagiotou, Andreas Papapavlou, Pavlos Pavlou & Anna Roussou (eds.), *Proceedings of the 4th International Conference on Greek Linguistics. Nicosia 17-19 September 1999*, 473-479. Thessaloniki: University Studio Press.
Janse, Mark. 2002. Aspects of bilingualism in the history of the Greek language. In James Noel Adams, Mark Janse & Simon Swain (eds.), *Bilingualism in ancient society: Language contact and the written text*, 332–390. Oxford: Oxford University Press.
Janse, Mark. 2004. Animacy, definiteness and case in Cappadocian and other Asia Minor Greek dialects. *Journal of Greek Linguistics* 5. 3–26.
Janse, Mark. 2009. Greek-Turkish language contact in Asia Minor. *Études Helléniques/Hellenic Studies* 17(1). 37–54.
Johanson, Lars. 2002. *Structural factors in Turkic language contacts*. Richmond: Curzon.
Joseph, Brian. 1983. *The synchrony and diachrony of the Balkan infinitive: A study in areal, general, and historical linguistics*. Cambridge: Cambridge University Press.
Karampodas, Vassileios. 1948. *To Gourdonos kai to Aravani* [Ghúrzono and Araván]. Istanbul: M. Konstantinopoulos.

Karatsareas, Petros. 2009. The loss of grammatical gender in Cappadocian Greek. *Transactions of the Philological Society* 107(2). 196–230.
Karatsareas, Petros. 2011. *A study of Cappadocian Greek nominal morphology from a diachronic and dialectological perspective*. Cambridge: University of Cambridge dissertation.
Karatsareas, Petros. 2013. Understanding diachronic change in Cappadocian Greek: The dialectological perspective. *Journal of Historical Linguistics* 3(2). 192–229.
Karatsareas, Petros. 2014. On the diachrony of gender in Asia Minor Greek: The development of semantic agreement in Pontic. *Language Sciences* 43. 77–101.
Karatsareas, Petros. 2016. The Asia Minor Greek adpositional cycle: A tale of multiple causation. *Journal of Greek Linguistics* 16(1).
Kesisoglou, Ioannis I. 1951. *To glossiko idioma tou Oulagats (Le dialect d'Oulagatch)*. Athens: Institut Français d'Athènes.
Kim, Ronald I. 2008. An individual twist on the individualizing suffix: Definite *n*-stem nouns in Pontic Greek. *Glotta* 84. 72–113.
King, Ruth. 2000. *The lexical basis of grammatical borrowing: A Prince Edward Island French case study*. Amsterdam: John Benjamins.
Krinopoulos, Socrates. 1889. *Ta Fertakaina ypo ethnologikin kai filologikin epopsin exetazomena* [Ferték examined from an ethnological and philological perspective]. Athens: Fexis.
Matras, Yaron. 2009. *Language contact*. Cambridge: Cambridge University Press.
Matras, Yaron. 2010. Contact, convergence, and typology. In Raymond Hickey (ed.), *The handbook of language contact*, 66–85. Oxford: Wiley-Blackwell.
Mavrochalyvidis, Georgios & Ioannis I. Kesisoglou. 1960. *To glossiko idioma tis Axou (Le dialecte d'Axos)*. Athens: Institut Français d'Athènes.
Melissaropoulou, Dimitra. 2013. Reorganization of grammar in the light of the language contact factor: A case study on Grico and Cappadocian. In Mark Janse, Brian Joseph, Angela Ralli & Metin Bağrıaçık (eds.), *Online proceedings of MGDLT5. 5th International Conference on Modern Greek Dialects and Linguistic Theory. Ghent, Belgium. September 20–22, 2012*, 311–334. Patras, Greece.
Ortmann, Albert. 1998. The role of [±animate] in inflection. In Ray Fabri, Albert Ortmann & Teresa Parodi (eds.), *Models of inflection*, 60–84. Tübingen: Niemeyer.
Plank, Frans. 1999. Split morphology: How agglutination and flexion mix. *Linguistic Typology* 3(3). 279–340.
Plungian, Vladimir A. 2001. Agglutination and flection. In Martin Haspelmath (ed.), *Language typology and language universals: An international handbook*, 669–678. Berlin: De Gruyter.
Pöchtrager, Markus A., Csanád Bodó, Wolfgang U. Dressler & Teresa Schweiger. 1998. On some inflectional properties of the agglutinating type illustrated from Finnish, Hungarian and Turkish inflection. *Wiener Linguistische Gazette* 62–63. 57–92.
Ralli, Angela. 2000. A feature-based analysis of Greek nominal inflection. *Γλωσσολογία/Glossologia* 11-12. 201–227.
Ralli, Angela. 2005. *Morfologia* [Morphology]. Athens: Patakis.
Ralli, Angela. 2009. Morphology meets dialectology: Insights from Modern Greek dialects. *Morphology* 19. 87–105.
Ross, Malcolm D. 1997. Social networks and kinds of speech-community event. In Roger Blench & Matthew Spriggs (eds.), *Archaeology and language 1: Theoretical and methodological orientations*, 209–261. London: Routledge.

Sapir, Edward. 1921. *Language: An introduction to the study of speech*. New York: Harcourt, Brace and Company.
Sarantidis, Archelaos I. 1899. *I Sinasos, itoi thesis, istoria, ithiki kai dianoitiki katastasis, ithi, ethima kai glossa tis en Kappadokia komopoleos Sinasou* [Sinasos, that is, position, history, moral and intellectual state, customs and language of the Cappadocian town Sinasos]. Athens: Ioannis Nikolaidis.
Sasse, Hans-Jürgen. 1992. Language decay and contact-induced change: Similarities and differences. In Matthias Brenzinger (ed.), *Language death: Factual and theoretical explorations with special reference to East Africa*, 59–80. Berlin: Mouton de Gruyter.
Spencer, Andrew. 1991. *Morphological theory: An introduction to word structure in generative grammar*. Oxford: Basil Blackwell.
Spyropoulos, Vassilios & Konstantinos Kakarikos. 2011. A feature-based analysis of Cappadocian Greek nominal inflection. In Mark Janse, Brian Joseph, Pavlos Pavlou, Angela Ralli & Spyros Armosti (eds.), *Studies in Modern Greek dialects and linguistic theory*, 203–213. Nicosia: Research Centre of Kykkos Monastery.
Spyropoulos, Vassilios & Marianna Tiliopoulou. 2006. Definiteness and case in Cappadocian Greek. In Mark Janse, Brian D. Joseph & Angela Ralli (eds.), *Proceedings of the 2nd International Conference of Modern Greek Dialects and Linguistic Theory*, 366–378. Patras: University of Patras.
Stump, Gregory T. 2001. *Inflectional morphology: A theory of paradigm structure*. Cambridge: Cambridge University Press.
Thomason, Sarah G. 2001. *Language contact: An introduction*. Edinburgh: Edinburgh University Press.
Thomason, Sarah G. 2008. Social and linguistic factors as predictors of contact-induced change. *Journal of Language Contact* 2(1). 42–56.
Thomason, Sarah G. 2010. Contact explanations in linguistics. In Raymond Hickey (ed.), *The handbook of language contact*, 31–47. Oxford: Wiley-Blackwell.
Thomason, Sarah G. & Terrence Kaufman. 1988. *Language contact, creolization, and genetic linguistics*. Berkeley: University of California Press.
Tsitsopoulos, Eleftherios. 1962. *Syllogi glossikou kai laografikou ylikou ek tou choriou Flogita Chalkidikis (prosfygon tou omonymou choriou Kappadokias)* [Collection of linguistic and folk material from the village of Flogita of the Chalkidiki Prefecture (refugees from the Cappadocian village of the same name)]. Manuscript № 811. Research Centre for Modern Greek Dialects (I.L.N.E.), Academy of Athens.
Vryonis, Speros Jr. 1971. *The decline of medieval hellenism in Asia Minor and the process of islamization from the eleventh through the fifteenth century*. Berkeley: University of California Press.
Winford, Donald. 2003. *An introduction to contact linguistics*. Oxford: Blackwell.
Winford, Donald. 2005. Contact-induced changes: Classification and processes. *Diachronica* 22(2). 373–427.
Winford, Donald. 2010. Contact and borrowing. In Raymond Hickey (ed.), *The handbook of language contact*, 170–187. Oxford: Wiley-Blackwell.

Résumé
Le grec cappadocien est présenté comme étant agglutinant dans sa flexion nominale, notamment en raison de l'emploi de formants mono-exponentiels dans le marquage des cas et du nombre à

partir de formes analysables comme NOM.SG qui constituent ainsi les unités morphémiques auxquelles viennent s'ajouter les marques flexionnelles. Les travaux antérieurs ont interprété ces faits comme l'indice d'un changement de type morphologique — de fusionnel à agglutinant — provoqué par le contact avec le turc. La présente étude remet en question cette analyse. A partir d'un examen plus large des faits flexionnels dans cette langue, elle montre que seul un des deux types de formations agglutinantes identifiées présente un changement radical des propriétés structurelles héritées de la flexion nominale cappadocienne. L'autre type, en revanche, représente une innovation plus conservatrice d'un point de vue typologique. L'étude montre que ces deux types d'évolution ont été motivés par une combinaison de facteurs internes et externes. Elle décrit les mécanismes qui ont rendu cette innovation possible et passe en revue les facteurs qui l'ont favorisée.

Zusammenfassung
Das Griechische der Cappadocia Region zeigt der Meinung einiger Experten nach agglutinative Flexion im Nominalsystem, welche in der Markierung für Kasus und Numerus erscheint, sowie in den NOM.SG Grundformen auftritt, die als Ausgangspunkt für weitere Flexionsmarkierungen dienen. Bisher wurde diese morphologische Entwicklung von Forschern als ausschlaggebender Grund für die Theorie gesehen, dass sich die Sprache durch den intensiven Sprachkontakt mit dem Türkischen von fusionierender zu agglutinierender Morphologie verändert hätte. Die vorliegende Studie stimmt mit dieser These nicht überein. Betrachtet man das Flexionssystem der Sprache näher, findet man, dass nur eine der zwei bisher identifizierten agglutinativen Formen Evidenz für eine radikale Abweichung vom traditionellen Griechischen System aufzeigt. Die andere Form scheint dahingegen eine wesentlich konservativere Veränderung der traditionellen Struktur zu sein. Die vorliegende Studie erläutert anhand von verschiedenen Beweisen, dass beide Typen durch einen Zusammenschluss von internen und externen Einflüssen entstanden sind. Des weiteren beleuchtet der vorliegende Artikel die Mechanismen, welche zur Veränderung dieser Typen beigetragen haben, und untersucht schließlich die Faktoren, die den Sprachwandel begünstigen.

Author's address
Petros Karatsareas
Department of English, Linguistics and Cultural Studies
University of Westminster
32–38 Wells Street
LONDON
W1T 3UW United Kingdom

p.karatsareas@westminster.ac.uk