

**Cappadocian Greek nominal inflection:
The interplay of structural and
psycholinguistic factors in contact-
induced language change**

Methods in Dialectology XIII

*'Dialects as a testing ground for
theories of language change'*

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Cappadocian Greek

- A group of mutually related Greek varieties, which were spoken in Central Anatolia (contemporary Turkey) until **1923** (Treaty of Lausanne).



(map reproduced from Dawkins 1916)



Cappadocian Greek

- **1071**: defeat of the Byzantine troops in Manzikert.
- Results:
 - a) separation of the Greek-speaking people of Cappadocia from the rest of the Greek-speaking contingent;
 - b) dehellenisation of much of Asia Minor;
 - c) disintegration and fall of the late Byzantine Empire (**1453**).
- **Cappadocian develops in isolation for many centuries.**
 - a) **extensive inter- and intradialectal variation**
 - b) **high number of linguistic innovations in all components of the grammar**

The innovation in question

- 'Agglutinative' nominal morphology

- Two novel inflectional endings:

-ju genitive case cf. Turkish *-(n)In*

-ja plural number cf. Turkish *-lar*

- (1) 'wolf'

	SINGULAR		PLURAL
	Nominative	Genitive	Nominative
a. Turkish	kurt-Ø	kurt- un	kurt- lar
b. Cappadocian	likos-Ø	likos- ju	likos- ja
c. SMG	lik- os	lik- u	lik- i



The innovation in question

- “In [Cappadocian] morphology, we find such developments as an **agglutinative** pattern of inflection on nouns and verbs – a feature of Turkish, not at all typical of Greek. For example, the Greek genitive suffix *-yu* (as in *spityu* “of the house”) was reinterpreted as an agglutinative suffix and **extended to all nouns**”. (Winford 2003: 83; emphasis added)
- “... adoption of **partly agglutinative** patterns on noun and verb inflection” (Thomason & Kaufman 1988; Thomason 2001; emphasis added)

Problems

1. The use of the novel inflectional endings was **not** “extended to all nouns”:

(2) Axó Cappadocian

	‘shepherd’	‘door’		
	SINGULAR		PLURAL	
Nominative	piftiko-s	tira-Ø	piftik-i	tir- es
Genitive	piftik- u	tira- s	piftik-u	tir-es-ju
Accusative	piftiko-Ø	tira-Ø	piftik-jus	tir-es
NOT	*piftikos-ju	*tira-ju	*piftikos-ja	*tira-ja



Problems

2. The noun forms exhibiting the two novel inflectional endings are compatible with both a fusional and an agglutinative analysis:

(3) Ulaghátsh Cappadocian

neka-ju 'woman-GEN': a) -ju ⇔ [genitive, singular]

b) -ju ⇔ [genitive]



Problems

3. The two novel morphemes do not co-occur:

*likos-ja-ju ‘wolf-PL-GEN’

cf. Turkish kurt-lar-ın

BUT

(4) Axó Cappadocian

tiresju ‘door-PL-GEN’ < tir-es_[pl]-ju_[gen]



Today's talk

Examines:

- the question of whether the change in Cappadocian indeed involved a 'shift' from fusional to agglutinative nominal morphology or not;
- the nature and status of the two novel inflectional endings in the nominal systems of three Cappadocian varieties;
- the language-internal and language-external factors that brought the change about.



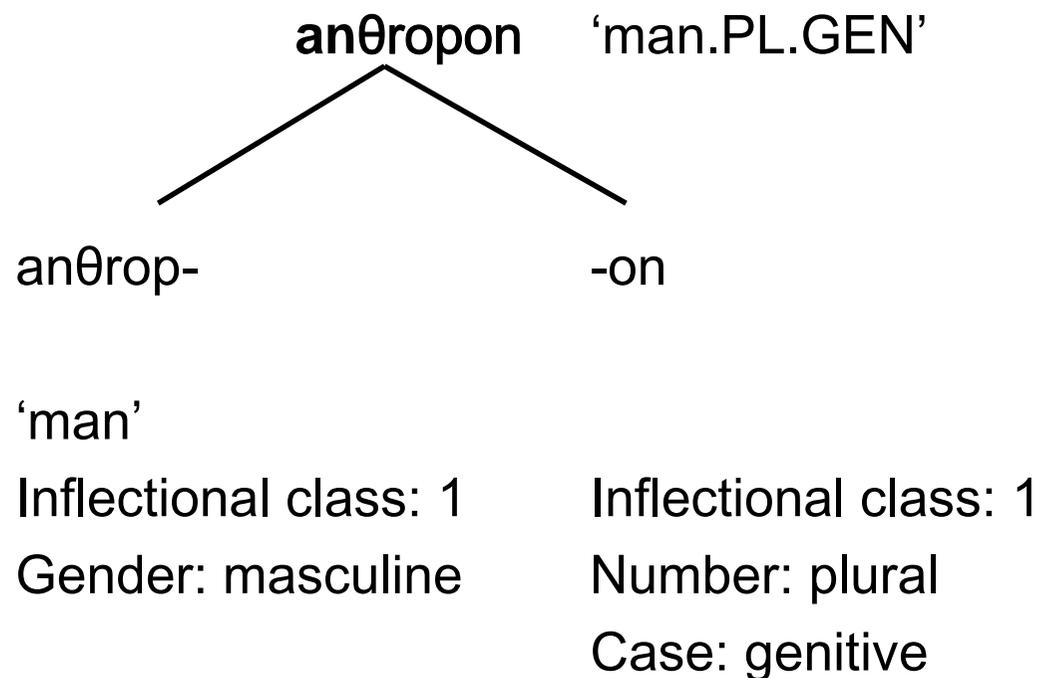
Greek fusional nominal morphology

- Ralli 2000, 2005
- Noun forms: [lexical root + inflectional ending]
- 8 inflectional classes: a) allomorphic variation of the lexical roots
b) set of inflectional endings combining with lexical roots
- Features:

a) Inflectional class:	1-8
b) Number:	singular, plural
c) Case:	nominative, genitive, accusative, vocative
d) Gender:	masculine, feminine, neuter

Greek fusional nominal morphology

- (5) Standard Modern Greek



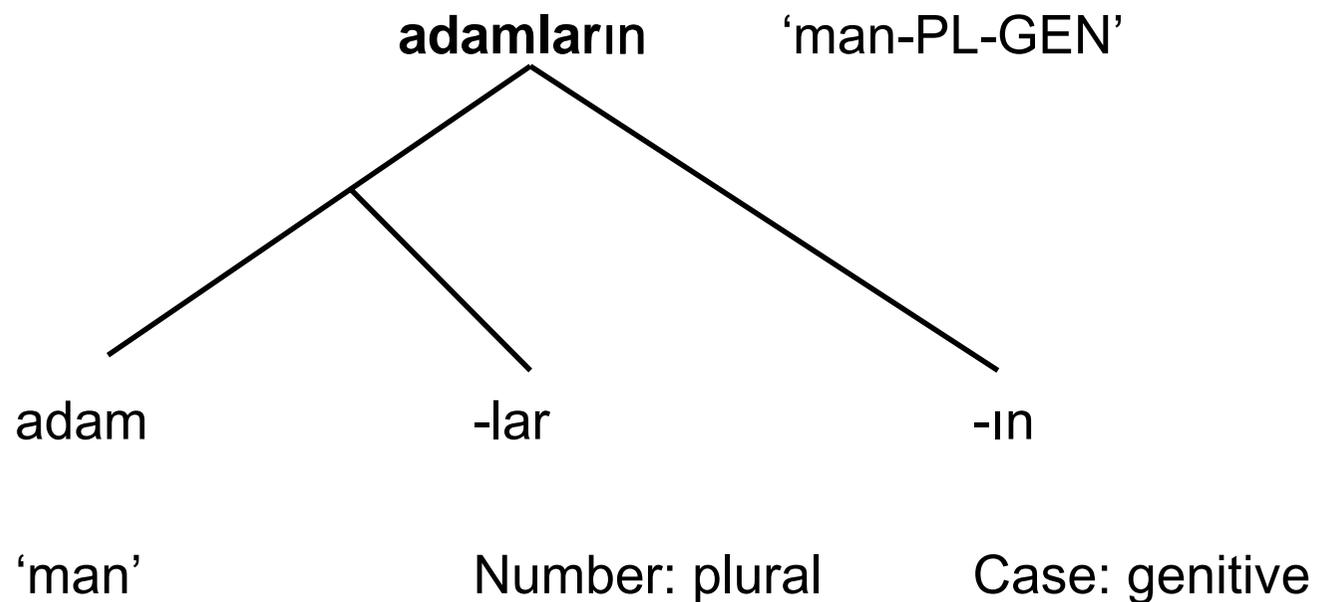


Turkish agglutinative nominal morphology

- Göksel & Kerslake 2005
- Nouns forms: [base + inflectional ending]
- No inflectional classes
- Features:
 - a) Number: singular, plural
 - b) Case: nominative, accusative, genitive, dative, locative, ablative

Turkish agglutinative nominal morphology

- (6) Turkish





Cappadocian nominal morphology: Fusion or agglutination?

- Delmesó, Axó and Ulaghátsh varieties
- Delmesó Cappadocian (DC): Dawkins 1916, Spyropoulos & Kakarikos 2007
- Axó Cappadocian (AC): Dawkins 1916, Mavrochalyvidis & Kesisoglou 1960
- Ulaghátsh Cappadocian (UC): Dawkins 1916, Kesisoglou 1951, Spyropoulos & Kakarikos 2007



Cappadocian nominal morphology: Fusion or agglutination?

- Noun forms: [lexical root + inflectional ending]
- Features:
 - a) Number: singular, plural
 - b) Case: nominative, accusative, genitive
 - c) Inflectional class: (varies)
- No grammatical gender distinctions: invariable determiners and modifiers.

(7) UC

do kalon do andra

‘the good man’

do kalon do neka

‘the good woman’

do kalon do pei

‘the good child’



Cappadocian nominal morphology: Fusion or agglutination?

- Inflectional classes: DC *papas versus keratas*
neka versus puma

AC *piftikos versus jipnos*
karja versus doma

UC *javolos versus jipnos*
neka versus puma



Cappadocian nominal morphology: Fusion or agglutination?

- Lexical root allomorphy: DC
 - aθropo- ~ aθrop-
 - papa- ~ papað-
 - kerata- ~ keratað-
 - klefti- ~ kleft-
 - neka- ~ nek-
 - ðendro- ~ ðendr-
 - puma- ~ pumat-

- AC
 - piftiko- ~ piftik-
 - numati- ~ numat-
 - karja- ~ karj-
 - lero- ~ ler-
 - doma- ~ domat-



Cappadocian nominal morphology: Fusion or agglutination?

- Number and case can be expressed by

a) a **single** ('portmanteau') inflectional ending

(8) AC

piftik-jus 'shepherd.PL.ACC': -jus ⇔ [plural, accusative]

b) two **distinct** inflectional endings

(9) AC

karj-**es-ju** 'heart-PL-GEN':
-es ⇔ [plural]
-ju ⇔ [genitive]



Cappadocian nominal morphology: Fusion or agglutination?

- Two types of inflectional endings in Cappadocian nominal morphology with respect to case and number:

a) ‘portmanteau’ inflectional endings expressing the feature bundle [number, case]

-s	⇔	[singular, nominative]	aθropo-s, papa-s, kerata-s, klefti-s, piftiko-s, numati-s, javolo-s
-i	⇔	[plural, nominative]	aθrop-i, kleft-i, piftik-i
-jus	⇔	[plural, accusative]	aθrop-jus, kleft-jus, piftik-jus, numat-jus
-s	⇔	[singular, genitive]	neka-s, karja-s



Cappadocian nominal morphology: Fusion or agglutination?

- b) inflectional endings bearing only one of the two features, either number or case

-es ⇔ [plural]

numat-es-ju, karj-es-ju,
nek-es-ju

-ju ⇔ [genitive]



Cappadocian nominal morphology: Fusion or agglutination?

- Neutralisation of case and number contrasts within noun paradigms results in the emergence of the novel type of inflectional endings:
 - a) nominative/accusative merger → neutralisation of case contrast
→ expression of number only

-ja ⇔ [plural] keratađ-ja, jipnos-ja, javol-ja

-a ⇔ [plural] đendr-a, meti-a, pumat-a, ler-a,
koritji-a, domat-a

-es ⇔ [plural] papađ-es, nek-es, karj-es



Cappadocian nominal morphology: Fusion or agglutination?

- b) genitive singular/genitive plural merger → neutralisation of number contrast → expression of case only

-ju ⇔ [genitive] jipnos-ju

-u ⇔ [genitive] ðendr-u, meti-u, pumat-u, ler-u,
koritʃi-u, domat-u



Cappadocian nominal morphology: Fusion or agglutination?

Conclusion 1

The change in Cappadocian did not involve the wholesale 'adoption' of an agglutinative inflectional pattern from Turkish but, rather, the separate expression of number and case in **some** inflectional endings.



The role of Turkish: bilingualism

- Language contact with Turkish has been used to explain the emergence of the novel type of inflectional endings (Janse 2001; Thomason & Kaufman 1988; Thomason 2001; Winford 2003).
- Extensive Cappadocian-Turkish bilingualism is a prerequisite for any plausible language contact scenario.
- Bilingualism in the area is well established:

“... women talking Turkish to their children, a sure sign of the approaching extinction of the Greek dialect.” (Dawkins 1916: 18)



The role of Turkish: bilingualism

- Hulk & Müller 2000; Müller 1998; Müller & Hulk 2001
- Cross-linguistic influence can be realised as **transfer**:
 - the use of one language's structures and rules to analyze input from the other language
 - ambiguous properties or structures in one language are prone to transfer
 - it occurs when the bilingual child is faced with linguistic material which is compatible with two or more different grammatical hypotheses (ambiguous)
 - the child uses knowledge from one language to interpret the ambiguous input of the other



The role of Turkish: bilingualism

- Field 2002; Clyne 2003; Matras 1998, 2002; Matras & Sakel 2007
- Bilingual speakers resort to ‘language mixing’ in an attempt to reduce the processing overload caused by the availability of two linguistic systems in their minds, which can differ in various aspects.
- To this end, they eliminate the linguistic elements or features which cause them cognitive ‘inconvenience’, in the sense of making it hard for them to differentiate between their two linguistic systems.



The role of Turkish: the mechanisms

- The two novel inflectional endings were the result of a process of morphological reanalysis of the fusional inflectional endings *-u* and *-a* of the Greek paradigm of neuter nouns ending in *-i* such as *spiti* 'house'.

(10) Greek neuter nouns paradigm

Nominative/

Accusative singular: /spiti-Ø/ > ['spiti]

Genitive singular: /spiti-u/ > [spi'tju]

Nominative plural: /spiti-a/ > ['spitja]



The role of Turkish: the mechanisms

- A Cappadocian phonological rule deleted word-final unaccented [i] and [u].

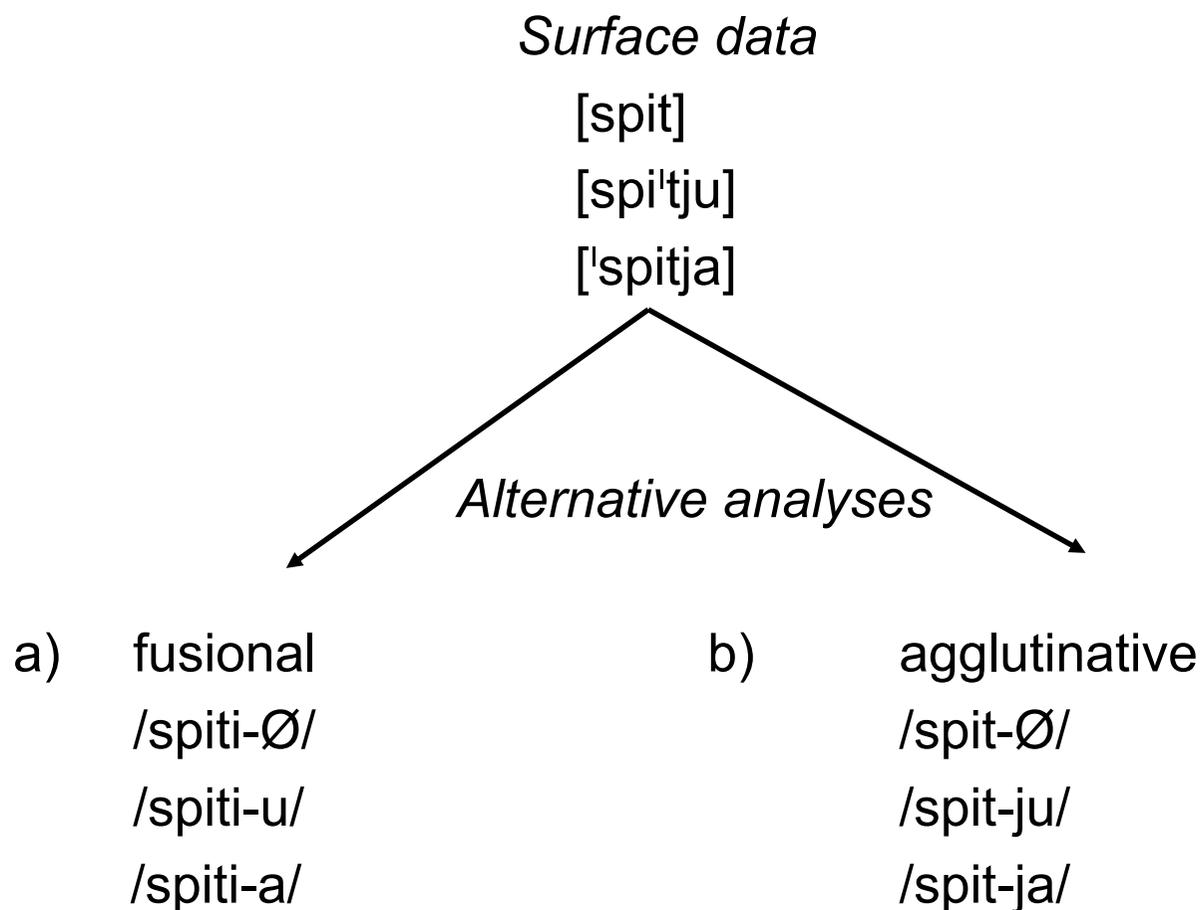
(11) High vowel deletion rule

$$V_{\substack{[\text{high}] \\ [-\text{stress}]}} \rightarrow \emptyset / _ \#$$

- Nominative singular ['spiti] > [spit]

The role of Turkish: the mechanisms

- Reanalysis of morpheme boundaries





The role of Turkish: the mechanisms

- The preference for the agglutinative analysis on behalf of bilingual speakers may have been the result of **transfer** (à la Müller): Cappadocian-Turkish bilinguals analyzed the ambiguous Cappadocian input using the Turkish rules of agglutinative nominal morphology.
- Cappadocian-Turkish bilinguals possibly resorted to the agglutinative analysis to reduce the processing overload caused by the differences in the underlying representations of inflectional endings in Greek and Turkish in terms of feature marking (à la Matras et al.).



The role of Turkish: the mechanisms

- Greek inflectional endings: [number, case, inflectional class]
- Turkish inflectional endings: [case], [number]
NO inflectional class



The role of Turkish

Conclusion 2

The emergence of the two novel ‘agglutinative’ inflectional endings followed an instance of morphological reanalysis in the Greek paradigm of neuter nouns ending in *-i*, and a subsequent preference on behalf of Cappadocian-Turkish bilingual speakers for an agglutinative analysis of Cappadocian surface data under cross-linguistic influence from Turkish.



How about the structural factors?

- Neutralisation of case and number contrasts formed the structural conditions necessary for the novel ‘agglutinative’ inflectional endings to emerge.

(12) AC	‘sleep’	
	SINGULAR	PLURAL
Nominative	jipnos-Ø	jipnos-ja
Accusative	jipnos-Ø	jipnos-ja
Genitive	jipnos-ju	jipnos-ju

- The separate marking for case and number in forms such as *nek-es-ju* ‘woman-PL-GEN’ is, therefore, the result of the above neutralisations of case and number contrasts within certain inflectional paradigms.



How about inflectional class?

- Cappadocian inflectional endings are still marked for inflectional class.

(13) AC [plural]	-es	~	-ja	~	-a
	neka		jipnos		puma
	nek-es		jipnos-ja		pumat-a
[genitive]	-ju	~	-u		
	jipnos		piftikos		
	jipnos-ju		piftik-u		

- Inflectional class marking is more generally thought of as being a characteristic of fusional inflection (Alexiadou & Müller 2005).



Overall conclusion

- The nominal inflection of Cappadocian was neither fusional nor agglutinative in the traditional sense of each term but, rather, a mixed system with both fusional and agglutinative characteristics:
 - a) inflectional endings which express a feature bundle containing both number and case, and inflectional class marking indicate fusion.
 - b) inflectional endings which express a feature bundle containing either number or case, and the subsequent possibility for the separate marking of these features in forms like *nek-es-ju* ‘woman-PL-GEN’ point towards a certain degree of agglutination.



Overall conclusion

- The innovations in the Cappadocian nominal inflection in terms of inflectional endings seem to have been triggered by language-internal factors the most important of which was the neutralisation of case and number contrasts within certain inflectional paradigms.
- Language contact with Turkish can be thought of as a factor which most probably accelerated a process already ongoing in Cappadocian due to the identified language-internal factors.



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The genitive plural question

- *jipnos-ja-ju ‘sleep-PL-GEN’
*javol-ja-ju ‘devil-PL-GEN’

- Genitive plural in Cappadocian:
 - a) no inherited ending ‘-on’ (except Anakú Cappadocian peđjo ‘child.PL.GEN’, cf. SMG peđjon ‘child.PL.GEN’)

 - b) genitive singular/ genitive plural merger (DC ðendru, metiu, pumatu; AC piftiku, jipnosju, leru, koritju, domatu)

 - c) separate marking for case and number (AC numat-es-ju, karj-es-ju; UC nek-es-ju)

 - d) lexical gap



The genitive plural question

- SMG: genitive plural forms and, to a lesser extent, genitive singular forms are unproductive in numerous nouns and in certain derivational endings like the diminutives in -aki or -itsa.

(14) SMG

a. papia ['papça] 'duck'

?papion [pa'pçon] 'duck.PL.GEN'

b. karekla 'chair'

?kareklakion 'chair.DIM.PL.GEN'

?kareklitson 'chair.DIM.PL.GEN'

- Pronominal phrases are used instead of the 'unproductive' (or, rather, 'non-preferred') genitive plural forms in SMG.



The genitive plural question

- Can the ‘unproductivity’ of genitive plural noun forms in Cappadocian be attributed to the similar status of these forms in Medieval Greek?
- Does this date back to the time before contact with Turkish?
- Did contact with Turkish have anything to do with this phenomenon?