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## Genitive alternation in possessives and beyond: Morphological or structural variation?

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This paper examines the phenomenon of the genitive alternation in Standard Modern Greek, focusing on the interaction between inflectional genitives and prepositional phrases introduced by *apo* ('of, from'). While this alternation could be considered a variation in the realizational component, our findings suggest that the two constructions are not interchangeable and arise from distinct syntactic mechanisms. By analyzing this alternation in the context of possessives and derived nominals, we show that inflectional genitives exhibit a broader range of syntactic and semantic functions. In contrast, *apo*-PPs are more restricted, particularly in contexts where a partitive reading is also available. Additionally, the study highlights the role of paradigm gaps in shaping the distribution of genitives and prepositional phrases, showing that while such gaps encourage the use of *apo*-PPs, they do not drive a systematic replacement of inflectional genitives. Comparative data from Northern Greek dialects, where inflectional genitives have been entirely lost for common nouns, and evidence from the language's diachrony further reinforce the conclusion that *apo*-PPs are introduced through an independent syntactic process. By distinguishing structural substitution from morphological suppletion, this study sheds new light on the evolution of morphological case systems and the development of adpositional alternatives.

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## 1 Introduction

Cross-linguistically, there is a long-standing tradition of research (that goes back at least to Thomas 1931) on the alternation between constructions such as *the judge’s decision* and *the decision of the judge*, a phenomenon often called *genitive alternation/variation*, see Rosenbach (2014), Szmrecsanyi et al. (2017), Ackermann et al. (2018) and references therein. This phenomenon has been widely discussed as it bears on the interaction between syntax and morphology, and it offers a window to the factors regulating the inflectional marking of Case and the development of an adpositional alternative. One of the questions raised in the study of this alternation is whether there is one syntactic mechanism deriving both constructions and, thus, the alternation is determined morpho(phono)logically or whether each construction constitutes the realization of a distinct syntactic structure.

In this paper, we contribute to the investigation of the genitive alternation by introducing novel evidence from Greek. Despite the abovementioned long-standing tradition, the genitive alternation in the synchrony of Standard Modern Greek remains a relatively understudied topic that needs to be combined with existing diachronic and dialectal studies to provide a better understanding of the phenomenon. Unlike English, where there is alternation between prenominal and postnominal genitives that differ in form, ‘s-genitive and *of*-genitive, Standard Modern Greek shows an alternation between inflectional and prepositional forms, both appearing in the post-nominal position. Prenominal genitives are not licit in unmarked contexts in Standard Modern Greek.<sup>1</sup> The examination of this alternation in Greek supports the hypothesis that genitive case-marked nominals are introduced into structures via a syntactic mechanism distinct from the one introducing their prepositional alternates.

Realizations of the genitive have attracted much attention in diachronic linguistics as they constitute a prominent and well-documented case of language change in Indo-European languages. Although the genitive was part of an elaborate Proto-Indo-European case system where it had a possessive and a partitive use, nowadays, it is entirely lost (e.g., in Romance) or appears in remnants (e.g., in Germanic), see Luraghi (2003), Hewson & Bubenik (2006), and Kulikov (2011; 2013) among others.

Greek is an Indo-European language that has undergone significant changes in its case system. Mertyris (2014; 2023) shows that the Ancient Greek genitive inherited both uses of its Proto-Indo-European ancestor but added the ablative use. Both the partitive and ablative uses of the

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<sup>1</sup> (Contrastive) focus-marking alongside emphatic intonation create a marked context that allows prenominal genitives as in (i):

(i) TU SEFERI to piima ðjavasa (oxi tu Eliti)  
 DEF.SG.GEN Seferis.GEN DEF.SG.ACC poem.SG.ACC read.PST.1SG NEG DEF.SG.GEN Elitis.GEN  
 ‘I read Seferis’s poem, not Elitis’s.’

genitive were lost in the Medieval period, during which the genitive retained only its possessive use. Meanwhile, the loss of inflectional dative had the genitive take over its uses, only in the Southern variety of Greek; Northern Greek replaced dative with accusative.

In the course of diachrony, it became impossible to express several of the genitive's uses through inflection and hence these were realized by prepositional phrases instead. This is, for instance, what happened with the partitive function, which was expressed via a prepositional phrase headed by *apo* even in the Classical period, although the relevant examples in this period are still rare, see more in Seržant (2012), and Conti & Luraghi (2014):

- (1) *ὀλίγοι ἀπὸ πολλῶν ἐπ' οἴκου ἀπενόστησαν*  
*olígoi apò pollô:n ep' oíku: apenóste:san*  
 few.PL.NOM of many.PL.GEN to home.SG.GEN return.PST.3PL  
 'few of many returned home' (Thucydides 7.87.6 via Mertyris 2023: 256)

Today, Standard Modern Greek still has an inflectional genitive, despite the fact that several dialects, mainly spoken in the North, have (almost) entirely lost it, and grammars of Heritage Greek speakers do not include it, at least to the same extent as the grammars of native Standard Modern Greek speakers, see Zombolou (2011). In these cases, inflectional genitives have been replaced by PPs headed by *apo* 'of, from', a situation reminiscent of Romance and other Indo-European languages, see Luraghi (2003) and Hewson & Bubenik (2006).

This paper focuses on the synchrony of Standard Modern Greek, where inflectional genitives exist but are becoming rarer as *apo*-PPs are gaining ground. Our study shows that the replacement of the genitive by *apo*-PPs is often triggered by paradigm gaps in the declension classes of the nominals but is restricted to specific contexts. This suggests that inflectional genitives are not being replaced by prepositional genitives but rather substituted by prepositional phrases that can convey the same readings. In other words, *apo*-PPs do not constitute an alternative surface form for inflectional genitives; they are introduced via a distinct syntactic mechanism.

The rest of this paper is structured as follows. Section 2 provides an overview of the genitive alternation in Standard Modern Greek, discussing its various syntactic and semantic properties. Section 3 examines the role of the paradigm gaps in the nominals' declension system and the role of the language's history in shaping the alternation pattern. Section 4 compares the Standard Modern Greek distribution with dialectal data, particularly from Northern Greek varieties, to assess the extent to which *apo*-PPs can be analyzed uniformly across varieties. Section 5 shows how Standard Modern Greek *apo*-PPs and inflectional genitives differ from each other, while Section 6 focuses on derived nominals and shows that when accompanied by *apo*-PPs, derived nominals do not support an argument structure comparable to the respective verb but pattern like non-derived, result nominals. Section 7 considers non-derived nominals and presents a syntactic analysis of the alternation, showing that the two constructions stem

from distinct syntactic mechanisms rather than from morphological variation. Finally, Section 8 concludes with a discussion on the implications of these findings for diachronic change and cross-linguistic perspectives.

## 2 The genitive alternation in Standard Modern Greek

The genitive in Standard Modern Greek (SMG) marks, among others, indirect objects in the verbal domain as well as possessors and internal arguments in the nominal domain, see Holton et al. (2012: 336–351). Nikiforidou (1991) provides an overview of all uses of the SMG genitive and proposes a grouping via a network of metaphors. We will focus here on the genitive in the nominal domain, namely the genitive of possession (2a) and the genitive realizing the argument of derived nominals (2b).

- (2) a. to                vivlio                tu                Jani  
       DEF.SG.NOM book.SG.NOM DEF.SG.GEN John.GEN  
       ‘John’s book’
- b. i                kinisi                ton                planiton  
       DEF.SG.NOM movement.SG.NOM DEF.PL.GEN planet.PL.GEN  
       ‘the planets’ movement’

Specifically, the genitive case expresses all types of possession, including ownership (2a), kinship (3a), part-whole relationships (3b), and body parts (3c).

- (3) a. o                aðerfos                tis                Marias  
       DEF.SG.NOM brother.SG.NOM DEF.SG.GEN Maria.SG.GEN  
       ‘Maria’s brother’
- b. o                kinitiras                tu                aftokinitu  
       DEF.SG.NOM engine.SG.NOM DEF.SG.GEN car.SG.GEN  
       ‘the car’s engine’
- c. to                yonato                tu                aθliti  
       DEF.SG.NOM knee.SG.NOM DEF.SG.GEN athlete.SG.GEN  
       ‘the athlete’s knee’

In the meantime, genitive marks the *theme* argument of a derived nominal (4a). In the presence of a second argument, the *theme* argument retains the genitive-case marking, while the external argument, the *agent*, is introduced via a prepositional phrase headed by *apo* ‘of, from, by’(4b).

- (4) a. i                katastrofi                tis                polis  
       DEF.SG.NOM destruction.SG.NOM DEF.SG.GEN city.SG.GEN  
       ‘the destruction of the city’

- b. i                    katastrofi                    tis                    polis                    apo tus  
 DEF.SG.NOM destruction.SG.NOM DEF.SG.GEN city.SG.GEN by DEF.PL.ACC  
 varvarus  
 barbarian.PL.ACC  
 ‘the destruction of the city by the barbarians’

*Apo*-PPs that are morphologically similar to the ones introducing the external argument of derived nominals can also replace inflectional genitives in some of the abovementioned uses, as explained below. The use of such a PP instead of a genitive in SMG is associated with lower registers. Holton et al. (2012: 473) call this a *colloquial alternative*; see also at the end of Section 3.

Regarding possessives, *apo*-PPs alternate naturally with genitives in the context of part-whole relationships (5a), as is the case with source/origin relationships (5b). Relations between body parts and animates, though, do not alternate as easily (5c):<sup>2</sup>

- (5) a. episkevasame to                    pomolo                    tis                    portas                    /apo  
 fix.PST.1PL DEF.SG.ACC handle.SG.ACC DEF.SG.GEN door.SG.GEN of  
 tin                    porta  
 DEF.SG.ACC door.SG.ACC  
 ‘We fixed the door’s handle / the handle of the door.’
- b. vrasame to                    nero                    tis                    pijis                    /apo  
 boil.PST.1PL DEF.SG.ACC water.SG.ACC DEF.SG.GEN spring.SG.GEN of  
 tin                    piji  
 DEF.SG.ACC spring.SG.ACC  
 ‘We boiled the spring’s water / the water of the spring.’
- c. blextike i                    ura                    tu                    aloyu                    /? apo  
 tangle.PST.3SG DEF.SG.NOM tail.SG.NOM DEF.SG.GEN horse.SG.GEN of  
 to                    aloyo  
 DEF.SG.ACC horse.SG.ACC  
 ‘The horse’s tail / The tail of the horse tangled.’

*Apo*-PPs are unacceptable in kinship (6a) and ownership (6b). As pointed out by our reviewers, the evidence presented in (5) and (6) suggests that the animacy of the possessor creates a blocking effect on the alternation: *apo*-PPs do not seem acceptable with animate possessors. The rest of this

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<sup>2</sup> The data presented in this paper do not simply represent the authors’ grammaticality judgments, but they have been verified through a questionnaire administered to thirty native speakers of Modern Greek (ages 18–67, from Athens and Cyclades – Southern region, Thessaloniki and the rest of Macedonia – Northern region). It was pointed out to us that, although the judgments for few examples may vary for some speakers, the distribution presented here is accurate. In any case, variation in the judgments is explicitly noted via ‘?’-marking. This variation is also expected, if we are right in assuming with the previous literature that the genitive is undergoing a process of change across Greek varieties.

Section supports this generalization. However, additional evidence discussed in Sections 3 (ex. 14, 15) and 5 (below ex. 27) suggests that animacy alone cannot explain the distribution; animate possessors are acceptable in *apo*-PPs if the relationship expressed is a (body) part-whole one.

- (6) a. #kalesame ton aðerfo apo ta koritsja  
 invite.PST.1PL DEF.SG.ACC brother.SG.ACC of DEF.PL.ACC girl.PL.ACC  
 ‘We invited the brother of the girls.’
- b. #eksisa to molivi apo ti ðaskala  
 sharpen.PST.1SG DEF.SG.ACC pencil.SG.ACC of DEF.SG.ACC teacher.SG.ACC  
 ‘I sharpened the pencil of the teacher.’

As for derived nominals, prepositional phrases with *apo* can replace genitive *theme* arguments, as shown in (7). However, although very common in (but not exclusive to) culinary contexts, as a simple internet search confirmed, sentences containing *apo*-PPs are degraded for some speakers, including one of the authors of this paper and one of its anonymous reviewers. Our take on this issue is presented in Section 6:

- (7) a. xriazode tria lepta ja to vrasimo ton zimarikon/  
 need.3PL three minutes for DEF.ACC boiling.ACC DEF.PL.GEN pasta.PL.GEN  
 apo ta zimarika  
 of DEF.PL.ACC pasta.PL.ACC  
 ‘Three minutes are needed for the boiling of the pasta.’
- b. iparxi ðinatotita aperioristis katanalosis krasju/  
 exist.3SG possibility.SG.ACC unlimited.SG.GEN consumption.SG.GEN wine.SG.GEN  
 apo krasi  
 of wine.SG.ACC  
 ‘There is a possibility for unlimited wine consumption.’

Crucially, in the presence of two arguments, only the external one surfaces as an *apo*-PP (cf. 8a, 8c, 8d), even though the internal one can appear as a PP when in isolation (8b), see Alexiadou (2001) for discussion and references:

- (8) kratise ena xrono...  
 last.PST.3SG one year.SG.ACC
- a. i metafrasi tu miθistorimatos apo to  
 DEF.SG.NOM translation.SG.NOM DEF.SG.GEN novel.SG.GEN of DEF.SG.ACC  
 Jani  
 John.ACC  
 ‘The novel’s translation by John lasted one year.’

- b. i                    metafrasi                    apo to                    miθistorima  
 DEF.SG.NOM translation.SG.NOM of DEF.SG.ACC novel.SG.ACC  
 ‘The translation of the novel lasted one year.’
- c. #i                    metafrasi                    apo to                    miθistorima tu  
 DEF.SG.NOM translation.SG.NOM of DEF.SG.ACC novel.SG.ACC. DEF.SG.GEN  
 Jani<sup>3</sup>  
 John.GEN  
 ‘The translation of John’s novel lasted one year.’
- d. \*i                    metafrasi                    apo to                    miθistorima apo to  
 DEF.SG.NOM translation.SG.NOM of DEF.SG.ACC novel.SG.ACC of DEF.SG.ACC  
 Jani  
 John.ACC  
 ‘The translation of the novel of John lasted one year.’

A further observation is that the prepositional variant is unacceptable when the possessor or the nominal argument is a pronoun<sup>4</sup> (9) or a proper name (10). The sentences in (9) are acceptable under non-possessive interpretations, i.e., only if a thematic relationship is identified between the noun and the PP, e.g., if *apo sena* ‘of you’ in (9a) denotes someone who sent/donated *to vivlio* ‘the book’ or if *apo mena* ‘of me’ in (9b) means that the dance (*to xoro*) was offered by me. Similarly, the examples in (10) are acceptable if the *apo*-PPs are interpreted as *by*-phrases.

- (9) a. #evapsa            to                    vivlio            /ta                    matja            apo sena  
 paint.PST.1SG DEF.SG.ACC book.SG.ACC DEF.PL.ACC eye.PL.ACC of 2SG.ACC  
*int.* ‘I painted your book/eyes.’
- b. #latrepsa            tin                    kinisi                    /to                    xoro                    apo  
 adore.PST.1SG DEF.SG.ACC movement.SG.ACC DEF.SG.ACC dance.SG.ACC of  
 mena  
 1SG.ACC  
*int.* ‘I loved my movement/dance.’

<sup>3</sup> As hinted in the translation, (8c) is acceptable only if ‘John’ is interpreted as the creator of the novel not the translator, i.e. if ‘John’ is an argument of *miθistorima*, not *metafrasi*.

<sup>4</sup> Pronominal possessors are mainly introduced as post-nominal clitics (i) or via a complex possessive expression including a possessive adjective and a pronominal clitic (ii), see Alexiadou (2005). These types of possessors are left outside the scope of this paper.

(i) to                    vivlio            tu  
 DEF.SG.NOM book.SG.NOM his  
 ‘his book.’

(ii) to                    ðiko mu vivlio.  
 DEF.SG.NOM own my book.SG.NOM  
 ‘my own book’

- (10) a. #travmatistike o omos /i mama  
 get.hurt.PST.3SG DEF.SG.NOM shoulder.SG.NOM DEF.SG.NOM mom.SG.NOM  
 apo ti Fani  
 of DEF.ACC Fani.ACC  
*int.* ‘Fani’s shoulder/mom got injured/hurt.’
- b. #amfisviti0ike i iparksi /to pesimo apo  
 be.doubted.PST.3SG DEF.SG.NOM existence.NOM DEF.SG.NOM falling.NOM of  
 ti Vasiliki  
 DEF.ACC Vasiliki.ACC  
*int.* ‘The existence / the falling of Vasiliki was doubted.’

Moreover, the resistance in the realization of the genitive as an *apo*-PP (which is expected in an example like (11) given that the relationship between a mat and a door is not that of part-wholes) reduces when the nominal following *apo* is in plural:<sup>5</sup>

- (11) a. ??alaksa to xalaki apo tin porta  
 change.PST.1SG DEF.SG.ACC mat-DIM.SG.ACC of DEF.SG.ACC door.SG.ACC  
 ‘I changed the small mat of the door.’
- b. alaksa to xalaki apo tis portes  
 change.PST.1SG DEF.SG.ACC mat.DIM.SG.ACC of DEF.PL.ACC door.PL.ACC  
 ‘I changed the small mat of the doors.’

More importantly, the abovementioned restrictions on *apo*-PPs can be (almost) circumvented in cases of paradigm gaps, i.e., in cases where the morphological paradigm of a given noun lacks an inflected form for the genitive; see next section.

Unlike the SMG pattern, dialects spoken in northern Greece, e.g., Grevena Greek (GG), use *apo*-PPs across the board since the inflectional genitive has fallen completely out of use, see Michelioudakis et al. (2024). In GG, for instance, both arguments of a derived nominal can be introduced via an *apo*-PP; see more in Section 4:

- (12) i piriyafi ap tun ðimarxu ap ta  
 DEF.SG.NOM description.SG.NOM of DEF.SG.ACC mayor.SG.ACC of DEF.PL.ACC  
 piðja  
 kid.PL.ACC  
 ‘the description of the mayor of the kids’

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<sup>5</sup> As a reviewer points out, an *apo*-PP is more acceptable also in the case of a modified possessor as in (i) below. In Section 5 we take the fact that modifiers and plural marking (see 11) facilitate *apo*-PPs as an indication that when an *apo*-PP is used, the possessive interpretation is coerced through a partitive one.

- (i) alaksa to xalaki apo tin brostini porta.  
 change.PST.1SG DEF.SG.ACC mat.DIM.SG.ACC of DEF.SG.ACC front door.SG.ACC  
 ‘I changed the small mat of the front door.’

Before comparing SMG to dialectal Greek, we focus on the restricted alternation within SMG and consider the conditions that regulate it. Paradigm gaps in specific declension classes are crucial in this respect. We take them into account first.

### 3 Paradigm gaps and the loss of genitive

SMG has three genders (masculine, feminine, and neuter) and four cases (nominative, genitive, accusative, and vocative), which delineate a very complex nominal declension system, see Ralli (2000). As shown in **Table 1** from Alexiadou & Müller (2008: 121), based on Ralli (2000), SMG has eight declension classes (DCs) and no one-to-one correspondence between gender and declension class. Although the SMG system is characterized by massive syncretism (see, for instance, the nominative-accusative syncretism in all neuter DCs -marked with ‘N’ subscript- in both numbers), the genitive is never syncretic to any other case within each DC. Moreover, although all DCs have the same form for the genitive plural, singular genitive forms show some variation:

CASE	I <sub>M/F</sub>	II <sub>M</sub>	III <sub>F</sub>	IV <sub>F</sub>	V <sub>N</sub>	VI <sub>N</sub>	VII <sub>N</sub>	VIII <sub>N</sub>
Nom <sub>sg</sub>	os	s	∅	∅	o	∅	os	∅
Acc <sub>sg</sub>	o	∅	∅	∅	o	∅	os	∅
Gen <sub>sg</sub>	u	∅	s	s	u	u	us	os
Voc <sub>sg</sub>	e	∅	∅	∅	o	∅	os	∅
Nom <sub>pl</sub>	i	es	es	is	a	a	i	a
Acc <sub>pl</sub>	us	es	es	is	a	a	i	a
Gen <sub>pl</sub>	on	on	on	on	on	on	on	on
Voc <sub>pl</sub>	i	es	es	is	a	a	i	a

**Table 1:** SMG nominal declension classes.

**Table 1** does not immediately show that the genitive formation involves not only the addition of a specific ending but also a shift in stress, at least in several cases (see Revithiadou 1999 for more on the stress patterns in Greek). As detailed in Mertyris (2014) and Sims (2006), and as shown in **Table 2** (adapted from Mertyris 2014: 33, his 2.7), the genitive formation across DCs requires a stress shift—either in both numbers or only in the singular—that moves the stress from the antepenultimate to the penultimate syllable or from the penultimate to the ultimate syllable. Additionally, in some cases within the same DC, no stress shift occurs at all. This variation is already suggestive of a complex and unpredictable system, see also Markopoulos (2018).

DC I <sub>M</sub> DC VI <sub>N</sub>	<b>ANT→PEN: Genitive Singular, Genitive Plural</b> άνθρωπος/ ανθρώπου, άνθρωπι/ ανθρώπον (M) ‘person’ πρόσωπο/ προσώπου, πρόσωπα/ προσώπον (N) ‘face’
	<b>NO CHANGE:</b> κόπανος/ κόπανου, κόπανι/ κόπανον (M) ‘mallet’ λάχανο/λάχανου, λάχανο/ λάχανον (N) ‘cabbage’
DC II	<b>ANT/PEN→PEN: Genitive Plural</b> jítonas/ jítona, jítones/ jítonon <b>PEN→ULT: Genitive Plural</b> κλέφτις/ κλέφτι, κλέφτες/ κλέφτον ‘thief’
DC III	<b>ANT/PEN→ULT: Genitive Plural</b> ώρα/ ώρας, ώρες/ ωρόν ‘hour’
DC III DC II	<b>(M/F) NO CHANGE:</b> παπύς/ παπού, παπούδες/ παπούδες ‘grandfather’ (M)
DC VI	<b>PEN→ULT: Genitive Singular, Genitive Plural</b> σπίτι/ σπιτιού, σπιτιά/ σπιτιών ‘house’
DC VIII	<b>ANT→PEN: Genitive Plural</b> πράγμα/ πράγματος, πράγματα/ πραγμάτων ‘thing’
DC VII	<b>PEN→ULT: Genitive Plural</b> δάσος/ δάσους, δάσι/ δασόν ‘forest’

**Table 2:** Stress patterns of the genitive in SMG.

Besides the marked<sup>6</sup> morphological marking and stress shift, additional factors pertaining to the interaction between derivational and inflectional morphemes or between compound constituents render several nominals unable to form genitives, mainly in the plural; see Mertyris (2019) and Alexiadou (2024). For instance, Mertyris (2014: 93) cites the compound *bananófluða* ‘banana peel’, for which all possible forms in the genitive plural sound odd, e.g., *??bananófluðon/ \*bananoflúðon/ \*bananofluðón*. The derived word for ‘female cook’ *majírisa* has also three forms for the genitive plural, namely *??majírison, \*majírison, ??majirisón*, none of which sounds good enough. However, in principle, these nominals should pattern with the example *óra* given for DC III in **Table 2**.

Sims (2006) introduced the first systematic classification for genitive gaps in Greek. She focuses on gaps in the plural genitive and concludes that these occur when other forms in the paradigm do not predict a specific form. Nominals bearing stress in the same syllable in genitive singular and genitive plural do not exhibit gaps (13a). However, when the stress pattern in the

<sup>6</sup> Marked, here, is used in the sense that, within each declension class, genitive in singular and plural has two distinct realizations that are not syncretic to any other case in the paradigm.

plural deviates from that of the singular, as in (13b), gaps in the plural may emerge; see also Thomadaki (2012) and Tsompanidou (2023).

- (13) a. *prósopo*      *prosópu*      *prosópon*  
           face.SG.NOM face.SG.GEN face.PL.GEN
- b. *mitéra*              *mitéras*              ??*miterón*  
           mother.SG.NOM mother.SG.GEN mother.PL.GEN

Alexiadou (2024), building on Mertyrís (2019), focuses on derived nominals ending in *-i*, mainly diminutives ending in *-aki*, which lack genitive formations in both numbers, and argues that these gaps are created due to a conflict between two stress-related rules that apply in the derivation of these nominals.<sup>7</sup>

No matter which factors create such paradigm gaps, *apo*-PPs are traditionally assumed to step in for them:

- (14) a. *i*                      *epikalipsi*              *ton*                      \**sokolat-akion*              /*apo*  
           DEF.SG.NOM coating.SG.NOM DEF.PL.GEN chocolate-DIM.PL.GEN of  
           *ta*                      *sokolat-akia*  
           DEF.PL.ACC chocolate-DIM.PL.ACC  
           ‘the coating of chocolates’
- b. *to*                      *trixoma*              *tu*                      \**katsik-akiu*              / *apo to*  
           DEF.SG.NOM fur.SG.NOM DEF.SG.GEN goat-DIM.SG.GEN of DEF.SG.ACC  
           *katsik-aki*  
           goat-DIM.PL.ACC  
           ‘the little goat’s fur’

Intriguingly, though, a paradigm gap is not sufficient to trigger the alternation. As confirmed by our informants, the substitution of a gap with an *apo*-PP in the context of ownership (15a) or kinship (15b) is degraded. *Apo*-PPs are, again, acceptable mainly in the context of part-whole relationships (14):

- (15) a. *petai*    *psila*    *to*                      *baloni*              *tu*                      \**ayor-akiu*  
           fly.3SG high DEF.NOM balloon.NOM DEF.SG.GEN boy-DIM.SG.GEN  
           / #*apo to*              *ayor-aki*.  
           of DEF.SG.ACC boy-DIM.SG.ACC  
           *int.* ‘The little boy’s balloon flies high.’

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<sup>7</sup> Note that, in contrast with SMG, some dialects of Greek tolerate such genitive formations. For instance, Liosis (2016) lists *tu luluðakju* ‘little.flower.SG.GEN’ and *ton naftakjo(n)* ‘little.sailor.PL.GEN’ as acceptable in Smyrna Greek. Mertyrís (2019: 167) adds several examples attested in Greek dialects spoken mainly, but not exclusively, on the islands of Aegean and shows a correlation with the availability of synzesis in the respective dialect, see Alexiadou (2024) for further discussion.

- b. efije o babas tu \*peð-akiu / #apo  
 leave.PST.3SG DEF.NOM dad.SG.NOM DEF.SG.GEN kid-DIM.SG.GEN of  
 to peð-aki.<sup>8</sup>  
 DEF.SG.ACC kid-DIM.SG.ACC  
*int.* ‘The little kid’s dad left.’

It seems, then, that from a synchronic point of view, paradigm gaps are not a sufficient condition for the alternation. The fact that the alternation can occur also in the absence of paradigm gaps, as already illustrated in (5) and (7), suggests that paradigm gaps are not a necessary condition for the genitive alternation either. By contrast, the type of relationship between the two nominals seems to be crucial in this respect; see more in Section 5. Nonetheless, paradigm gaps should be seen as a condition facilitating the genitive alternation, but not exclusively or to a greater degree than other conditions. Paradigm gaps, however, are important from a diachronic perspective, as they seem to indicate a significant change in the case system of a given language.

Mertyris (2014) holds that paradigm gaps constitute only one aspect or step of the gradual loss of the genitive. This is a phenomenon of language change that, according to the author, traces back to early Medieval Greek and is still ongoing in SMG, although it has reached a final stage in several dialects. Mertyris shows that the genitive in Greek has undergone significant changes due to its marked status in the language’s case system, particularly after the loss of the dative. Personal pronouns were the first to develop clitic forms exhibiting syncretism between the genitive and the accusative, thus manifesting the first step towards the loss of the genitive. Paradigm gaps in nominals requiring synzesis and a doubtful stress shift, as those mentioned above, constitute the second. The final stages of this change are detected in the majority of Northern Greek varieties in which a great degree of genitive singular loss and a complete loss of genitive plural are attested (Mertyris 2014: 210–263). The same path was followed in dialects spoken by minorities outside Greece (e.g., Italiot and Cappadocian Greek, see Melissaropoulou 2014 and references therein); these also lost genitive case marking, though in a more pervasive way due to the influence of the dominant languages (Italian and Turkish, respectively). Zombolou (2011) reports the same for Heritage Greek speakers in Argentina.

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<sup>8</sup> A reviewer suggests that adding the modifier *isixo* ‘quiet, obedient’, as in the example (i) they provide, makes the *apo*-PP more acceptable, see also footnote 5. We address this issue in Section 5.

- (i) o babas apo to isixo peð-aki ðen ipe pola.  
 DEF.SG.NOM dad.SG.NOM of DEF.SG.ACC quiet kid-DIM.SG.ACC NEG say.PST.3SG much  
 o babas apo to zoïro peð-aki olo miluse.  
 DEF.SG.NOM dad.SG.NOM of DEF.SG.ACC naughty kid-DIM.SG.ACC continuously talk.PST.3SG  
 ‘The father of the quiet kid didn’t say much. The father of the naughty kid was talking a lot.’

Despite the fact that the genitive has fallen out of use in a significant number of dialects, Standard Modern Greek shows resistance. We believe that the history of the language and, most importantly, its diglossic past could be responsible for it, see also Kavoukopoulos (1990). To this day, Standard Modern Greek constitutes a post-diglossic variety shaped by using *Dhemotiki* as a base and adding elements from *Katharevousa*. This process started at the dawn of the 19<sup>th</sup> century and peaked at the beginning of the 20<sup>th</sup>. *Katharevousa* (or, in fact, the several versions of it) constitutes the so-called higher variety that revived lexical items as well as phonological, morphological, and (to a smaller degree) syntactic rules of earlier eras of Greek and associated them with higher registers. It began as isolated to specific language communities but quickly rippled through new and larger communities as it became the language of Education. *Dhemotiki* represented the lower variety and was formed by filtering out regional dialectal idiosyncrasies. At the beginning of the 20<sup>th</sup> century, it became the official language in Education and, in 1976, the official language of the country. The contact and interaction between the two varieties increased significantly over time, smoothed over their differences, and shaped what we call the Standard language, which is, indeed, still in the making. Nowadays, the characteristics of *Dhemotiki* preserved in SMG outnumber those of *Katharevousa*, remnants of which, however, are still attested.<sup>9</sup> Inflectional genitives could be treated as one of those remnants since *Dhemotiki*, due to its dialectal background, would favor *apo*-PPs. Thus, the resistance to replacing the genitive with *apo*-PPs could be seen as a relic of this diglossic situation, which manifests itself today mainly as a competition between registers; see more in Browning (1983), Fragoudaki (1992), Papanastasiou (2024), and Tzitzilis & Papanastasiou (2024). This is also supported by the fact that SMG speakers who also speak, or are familiar with, dialects that do not exhibit genitive-related paradigm gaps, at least to the extent that SMG does (see ft. 4), are more hesitant to use and accept *apo*-PPs as alternatives to the genitive.

The following section offers a closer look at how SMG compares to Northern varieties.

## 4 Standard Modern Greek vs. Northern Greek dialects

In order to understand how restricted the distribution of *apo*-PPs in SMG is, we make a comparison with a Northern Greek dialect that has no inflectional genitive in common nouns and uses *apo*-PPs across the board, namely Grevena Greek (GG), as recently documented by Michelioudakis et al. (2024).

First, although GG PP express the whole range of relations that SMG inflectional genitives can (compare 16a, 16b), their SMG counterparts do not (16c). In fact, as a reviewer also points out, examples like (16c) can hardly receive a possessive interpretation; they are most naturally interpreted as having a source-like reading, e.g., the book sent/donated by the mayor for (16c).

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<sup>9</sup> We thank Christos Tzitzilis for bringing this view to our attention.

- (16) a. *GG* (Michelioudakis et al. 2024:285, their 19)  
 tu vivliu ap tun ðimarxu  
 DEF.SG.NOM book.SG.NOM of DEF.SG.ACC mayor.SG.ACC  
 ‘the book of the mayor, i.e., the book owned, written, or used by the mayor, the book the mayor talked about, the book explaining the mayor’s duties, etc.’
- b. *SMG (inflectional genitive)*  
 to vivlio tu ðimarxu  
 DEF.SG.NOM book.SG.NOM DEF.SG.GEN mayor.SG.GEN  
 ‘the mayor’s book, i.e., the book owned, written, or used by the mayor, the book the mayor talked about, the book explaining the mayor’s duties, etc.’
- c. *SMG (apo-PP)*  
 to vivlio apo ton ðimarxo  
 DEF.SG.NOM book.SG.NOM of DEF.SG.ACC mayor.SG.ACC  
 ‘the book of the mayor, i.e., the book written/sent by the mayor’

Unlike inflectional genitives (17b) and *apo*-PPs in SMG (17c), *GG* PPs can be iterated when the head (derived) nominal allows it (17a). In Section 5, we discuss more about the SMG pattern:

- (17) a. *GG* (Michelioudakis et al. 2024: 286, their 22)  
 i piriɣafi ap tun ðimarxu ap ta  
 DEF.SG.NOM description.SG.NOM of DEF.SG.ACC mayor.SG.ACC of DEF.PL.ACC  
 piðja  
 kid.PL.ACC  
*lit.* ‘the description of the mayor of the kids’
- b. *SMG (inflectional genitive)*  
 \*i periɣafi tu ðimarxu ton  
 DEF.SG.NOM description.SG.NOM DEF.SG.GEN mayor.SG.GEN DEF.PL.GEN  
 peðjon  
 kid.PL.GEN  
*lit.* ‘the mayor’s kids’ description’
- c. *SMG (apo-PP)*  
 \*i periɣafi apo to ðimarxo apo  
 DEF.SG.NOM description.SG.NOM of DEF.SG.ACC mayor.SG.ACC of  
 ta peðja  
 DEF.PL.ACC kid.PL.ACC  
*lit.* ‘the description of the mayor of the kids’

When iterated, *GG apo*-PPs are ambiguous with respect to theta assignment; the sentence in (17a) can be interpreted either as ‘the description of the mayor by the kids’ or as ‘the description of the kids by the mayor’.

An interesting similarity between SMG and GG is that the prepositional variant is resisted when the possessor/argument is a personal pronoun or a proper name. In this case, both varieties opt for realizing the personal pronoun as a clitic or via the possessive adjective *ðikos mu* (see footnote 4 for SMG, (18) for GG) and the proper name marked with an inflectional genitive in SMG (2, 3a) or an inflectional case marker syncretic between genitive and accusative in GG (19).

(18) GG (Michelioudakis et al. 2024: 287, their 24)

tu spiti m /\*apo mena  
 DEF.SG.NOM house.SG.NOM CL.1SG / of 1SG.ACC  
 ‘my house’

(19) GG (Michelioudakis et al. 2024: 287, their 25)

kaiki tu spit {t Jan} /{??/#ap  
 be.burnt.PST.3SG DEF.SG.ACC house.SG.ACC DEF.SG.GEN/ACC John.GEN/ACC/ of  
 t Jan}.  
 DEF.GEN/ACC John.GEN/ACC  
 ‘John’s house was burnt down’

Michelioudakis et al. (2024) explicitly say that “the only inflectional genitives that are grammatical are those of pronominal clitics and proper names, including sometimes nouns with a proper name-like function, e.g., kinship terms, in some varieties (*ts manas m* ‘the.GEN mother.GEN my’, *t patera m* ‘the.GEN father.GEN my’)”. This is indeed reminiscent of other Indo-European languages, such as German, where relics of the genitive are attested with proper names.

Furthermore, Michelioudakis et al. observe that if an inflectional genitive is used, it must be post-nominal, and in the presence of a second argument, it must remain closest to the head nominal. In the latter case, ordering effects arise since the inflectional genitive is always assigned the highest (available) thematic role in Cinque’s (1980) thematic hierarchy.

(20) GG (Michelioudakis et al. 2024: 288, their 27)

i piriɣrafi t Jan ap ta  
 DEF.SG.NOM description DEF.SG.GEN/ACC John.GEN/ACC from DEF.PL.ACC  
 piðja  
 kid.PL.ACC  
 ‘John’s description of the kids’/‘the description of John by the kids’ (if the *apo*-PP is interpreted as a *by*-phrase)

(21) GG (Michelioudakis et al. 2024: 288, their 28)

\*i piriɣrafi ap ta piðja t  
 DEF.SG.NOM description.NOM from DEF.SG.ACC kid.PL.ACC DEF.SG.GEN/ACC  
 Jan  
 John.GEN/ACC  
*int.* ‘John’s description of the kids’

The post-nominal position is also the unmarked order for the possessor and the nominal argument in SMG, regardless of its marking.

Therefore, there is empirical evidence suggesting that *apo*-PPs in SMG are not the same as GG *apo*-PPs. A closer look at their syntactic behavior indicates that SMG and GG *apo*-PPs should not receive a unified analysis either.

The comparison between (22) and (23) shows that GG PP's show the exact opposite behavior from their SMG counterparts. Specifically, the GG *apo*-PP (22a) can be fronted, unlike the respective SMG PP's (23a). GG *apo*-PPs can also be extracted from the DPs containing them (22b), whereas the same type of PP's in SMG cannot (23b).<sup>10</sup>

(22) GG (Michelioudakis et al. 2024: 289, their 31)

- a. [apu pjon]<sub>i</sub> u ksaeufus t<sub>i</sub> efiji xte?  
of who.ACC DEF.SG.NOM cousin.NOM leave.PST.3SG yesterday
- b. [apu pjon]<sub>i</sub> efiji u ksaeufus t<sub>i</sub> xte?  
of who.ACC leave.PST.3SG DEF.SG.NOM cousin.NOM yesterday  
‘Whose cousin left yesterday?’

(23) SMG (*apo*-PP)

- a. #[apo pjon]<sub>i</sub> to pođi t<sub>i</sub> espase xtes?  
of who.ACC DEF.SG.NOM leg.SG.NOM break.PST.3SG yesterday
- b. #[apo pjon]<sub>i</sub> espase to pođi t<sub>i</sub> xtes?  
of who.ACC break.PST.3SG DEF.SG.NOM leg.SG.NOM yesterday  
‘Whose leg broke yesterday?’<sup>10</sup>

In this respect, GG *apo*-PPs pattern with SMG inflectional genitives which can be fronted and allow sub-extraction:

(24) SMG (*inflectional genitive*)

- a. [pjanu]<sub>i</sub> to pođi t<sub>i</sub> espase xtes?  
whose DEF.SG.NOM leg.SG.NOM break.PST.3SG yesterday
- b. [pjanu]<sub>i</sub> espase to pođi t<sub>i</sub> xtes?  
whose break.PST.3SG DEF.SG.NOM leg.SG.NOM yesterday  
‘Whose leg broke yesterday?’

In sum, GG *apo*-PPs show a distinct behavior from SMG *apo*-PPs and SMG inflectional genitives in crucial aspects. **Table 3** summarizes how the three expressions compare to each other. The ✓ symbol suggests that the noun phrase has the property mentioned on the left, whereas the ✗ symbol suggests that it does not have the respective property.

<sup>10</sup> Note that both sentences in (23) are not starred ungrammatical because they are acceptable under the interpretation of the *apo*-PP as a *by*-phrase, i.e. when the *apo*-PP names the agent of *espase* ‘broke’.

	GG <i>apo</i> -PPs	SMG <i>apo</i> -PPs	SMG Inflectional Genitives
Express a wide range of pragmatically implied relations	✓	✗	✓
Iteration (stacking)	✓	✗	✗
Resisted with pronouns and proper names	✓	✓	✗
Post-nominal position is the unmarked	✓	✓	✓
Fronted	✓	✗	✓
Sub-extracted	✓	✗	✓

**Table 3:** The properties of GG and SMG “genitives”.

Michelioudakis et al. (2024) conclude that the behavior of GG PPs is similar to that of *de/di-* genitives in Romance. Therefore, they adopt a parallel analysis for the GG PPs and hold that GG PPs are introduced in the structure as reduced relative clauses. Clearly, given their distinct behavior in several respects, this analysis cannot be maintained for SMG genitives or SMG *apo*-PPs. Although this section has demonstrated differences between inflectional genitives and *apo*-PPs in SMG, the following section capitalizes on that and sets the foundation for a syntactic analysis.

## 5 SMG inflectional genitives vs SMG *apo*-PPs

The previous section has shown that SMG *apo*-PPs differ from inflectional genitives regarding the following facts: *apo*-PPs (a) convey only a subset of the readings that inflectional genitives convey, (b) are highly dispreferred with proper names and pronouns, and (c) cannot be extracted or fronted. However, they pattern alike because they cannot be stacked or iterated and are preferred in the post-nominal position. In this section, we add evidence showing that *apo*-PPs cannot be treated as a mere alternative realization of inflectional genitives.

In Section 4, we demonstrated that stacking inflectional genitives and *apo*-PPs with derived nominals is prohibited in SMG. However, a context where stacking is allowed can be found with non-derived nominals. In the following example of a recursive possessive phrase, we aim to convey the meaning of ‘the support of the table’s leg’. The grammatical phrases in this case can include two genitives (25a), but not two *apo*-PPs (25b). Moreover, although both inflectional genitives can be replaced by an *apo*-PP individually (26), only the innermost one alternates with an *apo*-PP if both are present (27). This would come as a surprise if *apo*-PPs were replacing inflectional genitives.

- (25) a. episkevasa to stiriyma tu pođju tu  
 fix.PST.1SG DEF.SG.ACC support.SG.ACC DEF.SG.GEN leg.SG.GEN DEF.SG.GEN  
 trapezju.  
 table.SG.GEN  
 ‘I fixed the table’s leg support.’
- b. ???episkevasa to stiriyma apo to pođi apo  
 fix.PST.1SG DEF.SG.ACC support.SG.ACC of DEF.SG.ACC leg.SG.ACC of  
 to trapezi.  
 DEF.SG.ACC table.SG.ACC  
 ‘I fixed the support of the leg of the table.’
- (26) a. episkevasa to stiriyma apo to pođi.  
 fix.PST.1SG DEF.SG.ACC support.SG.ACC of DEF.SG.ACC leg.SG.ACC  
 ‘I fixed the support of the leg.’
- b. episkevasa to pođi apo to trapezi.  
 fix.PST.1SG DEF.SG.ACC leg.SG.ACC of DEF.SG.ACC table.SG.ACC  
 ‘I fixed the leg of the table.’
- (27) a. episkevasa to stiriyma apo to pođi  
 fix.PST.1SG DEF.SG.ACC support.SG.ACC of DEF.SG.ACC leg.SG.ACC  
 tu trapezju.  
 DEF.SG.GEN table.SG.GEN  
 ‘I fixed the support of the table’s leg.’
- b. ???episkevasa to stiriyma tu pođju apo  
 fix.PST.1SG DEF.SG.ACC support.SG.ACC DEF.SG.GEN leg.SG.GEN of  
 to trapezi.  
 DEF.SG.ACC table.SG.ACC  
*int.* ‘I fixed the support of the leg of the table.’

The examples above illustrate what was already mentioned in Section 2: the alternation is natural in part-whole relationships. The fact that we observed the least variation among our informants and the highest acceptability in this context further supports this claim. Moreover, in view of examples like (16c), we can also conclude that *apo*-PPs are preferred for “possessors” that can be conceived of as *sources*. By contrast, in Section 2, we also showed that ownership and kinship resist the genitive alternation. Indeed, our informants agree on the unnaturalness of ownership and kinship examples containing *apo*-PPs.

Therefore, given the significant differences between inflectional genitives and *apo*-PPs, we conclude that the latter do not constitute a mere alternative realization of the former. As described so far, the distribution suggests that, in SMG, when the possession relation cannot be expressed via an inflectional genitive, it is coerced through a part-whole or source reading. In other words,

we would like to argue that the possessive reading of *apo*-PPs should be best captured as a re-interpretation of partitivity.<sup>11</sup> This also means that the so-called *genitive alternation* constitutes a case of substitution rather than suppletion.

Further support to this conclusion is provided by the facts already presented in Sections 2 and 3, according to which (a) proper names and pronouns, as well as animate possessors, are not preferred in *apo*-PPs, and (b) plural marking and modification of the possessor contained in the *apo*-PP increases, for several speakers, the acceptability of the phrase. As an anonymous reviewer points out, these facts indicate that *apo*-PPs are mainly accepted when the nominals they contain can denote (at least more easily) sets.

On the one hand, humans, particularly when presented as individuals via a proper name or a pronoun, can hardly be conceived of as introducing a set. In contrast, when presented via common nouns, particularly modified ones, they can do so more easily since they can imply a contrast with pragmatic alternatives. For instance, consider the example from footnote 8 repeated below:

- (28) o babas apo to isixo peđ-aki đen ipe  
 DEF.SG.NOM dad.SG.NOM of DEF.SG.ACC quiet kid-DIM.SG.ACC NEG say.PST.3SG  
 pola.  
 much
- o babas apo to zoiro peđ-aki olo  
 DEF.SG.NOM dad.SG.NOM of DEF.SG.ACC naughty kid-DIM.SG.ACC continuously  
 miluse.  
 talk.PST.3SG
- ‘The father of the quiet kid didn’t say much. The father of the naughty kid was talking a lot.’

Note that even if the second sentence in (28) were missing, the modified phrase *isixo peđaki* ‘quiet kid’ would pragmatically imply the existence of at least one other non-quiet kid. In this sense, we could say that for some speakers, including one of our reviewers, modified nominals can more easily be understood as sets that are contrasted to sets of alternatives and, hence, take part in an *apo*-PP. Plural marking facilitates *apo*-PPs because it creates sets of individuals semantically, i.e., in a more straightforward and prominent way. Therefore, in light of these facts, we believe that, unlike inflectional genitives, *apo*-PPs do not encode possession, but rather *partitivity*, which, under specific circumstances, can be coerced into possession.

Before arguing that the difference between inflectional genitives and *apo*-PPs is not only semantic but also syntactic, we need to consider one final possibility. Could the lexical semantics (if any) provided by *apo* be the reason why PP cannot alternate with inflectional genitives or,

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<sup>11</sup> See Nikiforidou (1991) on an explanation why the notion of possession and that of partitivity have a very close cognitive affinity.

at least, cannot express the whole range of interpretations available to the latter? The answer to this question is that if lexical semantics are indeed provided by *apo*, they do not suffice to explain the differences between inflectional genitives and *apo*-PPs.

First, if one looks at the possible readings an *apo*-PP can have in Dictionaries and Grammars of SMG, they will observe a very extensive range. This range is, in fact, so broad that it questions the characterization of *apo* as a lexical preposition. Theophanopoulou-Kontou (2000), Lechner & Anagnostopoulou (2006), Botwinik-Rotem & Terzi (2008), and Ramadanidis (2022) consider it a functional or ‘light’ preposition. In contrast, Alexiadou & Stavrou (2020) argue that *apo* is a meaningful, i.e., a lexical preposition, at least in the context of partitive constructions.

Second, proper names and pronouns are not, in general, unacceptable as complements of *apo* (29). Then, the restriction on proper names and pronouns we observe in the cases under discussion suggests that something else must be blocking their appearance.

- (29) a. *irθa spiti katefθian apo tin Anna.*  
 come.PST.1SG home directly from DEF.SG.ACC Anna.ACC  
 ‘I came home directly from Anna.’
- b. *pira to vivlio apo sena.*  
 take.PST.1SG DEF.SG.ACC book.SG.ACC from you.SG.ACC  
 ‘I took the book from you.’

Finally, if it were only for lexical semantics, we couldn’t explain the situation presented in examples (26–27). In principle, since substituting each inflectional genitive by an *apo*-PP individually is licit (26), replacing both should be possible, contrary to fact (25b, 27b).

Therefore, if lexical semantics of *apo* are present, they do not suffice to explain why the alternation between inflectional genitives and *apo*-PPs is restricted in SMG. Thus, *apo*-PPs cannot be analyzed as an alternative morphological realization of inflectional genitives. Therefore, we must assume that a distinct syntactic mechanism is employed in each case. We consider derived nominals and non-derived ones in turn.

## 6 The structure of SMG *apo*-PP with derived nominals

In this section, we argue that, in general, *apo*-PPs accompanying derived nominals are of two sorts: they are either counterparts to English *by*-phrases (when they do not alternate with genitives) or similar to SMG *apo*-PPs with non-derived nominals (when they alternate with genitives). We will briefly consider the counterparts to *by*-phrases first and then focus on the alternating *apo*-PPs.

As a background, keep in mind that derived nominals in SMG are, in principle, ambiguous between a complex event reading, a simple event reading, and a result reading, in the sense of Grimshaw (1990). In their complex event reading, derived nominals support an argument structure comparable to their corresponding verb, whereas in their other readings, they do not;

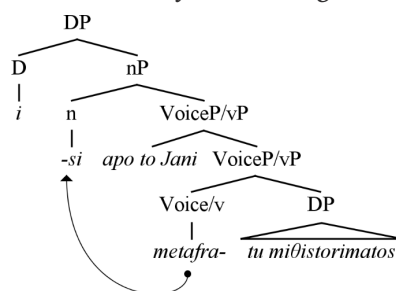
in these uses, they behave similarly to non-derived nominals in terms of argument structure, see Alexiadou (2001; 2009).

In Section 2, we demonstrated that external arguments of derived nominals always surface as *apo*-PPs, i.e., they do not alternate with inflectional genitives. Some relevant examples are repeated below:

- (30) a. *i katastrofi tis polis apo tus*  
 DEF.SG.NOM destruction.SG.NOM DEF.SG.GEN city.SG.GEN by DEF.PL.ACC  
*varvarus*  
 barbarian.PL.ACC  
 ‘the destruction of the city by the barbarians’
- b. *i metafrasi tu miθistorimatos apo to*  
 DEF.SG.NOM translation.SG.NOM DEF.SG.GEN novel.SG.GEN by DEF.SG.ACC  
*Jani*  
 John.ACC  
 ‘the novel’s translation by John’

Grimshaw (1990), Alexiadou et al. (2009; 2015), Bruening (2012), and Alexiadou (2017), among others, show that the licensing of PPs introducing external arguments depends on the transitivity of the head (derived) nominal. As these authors put it, since, for independent reasons, there is no position for the external argument within the nP, the latter should be introduced as an adjunct, i.e., via a *by*-phrase in English or an *apo*-PP in Greek. Typically, these PPs are considered adjuncts of vP/VoiceP in a structure similar to (31). Even so, their exact derivation will not concern us here. What is important is that these constitute a distinct type of PPs; as they are not part of an alternation and they introduce external arguments, these *apo*-PPs are the equivalents of *by*-phrases and they must be analyzed independently.<sup>12</sup>

- (31) *The structure of external-argument-introducing by-phrases in complex event nominals*



<sup>12</sup> A reviewer wonders whether assuming a [+possessor] feature for the *apo* used in possessive PPs would suffice to differentiate it from the *apo* used to introduce external arguments. In reply to this, we would like to maintain that although this feature could be used to distinguish them at the level of the lexicon, i.e., it could be used to distinguish two different yet homophonous lexical entries, it is clear that each *apo* is associated with a different syntax; possessive *apo*-PPs are introduced within the DP, whereas agentive *apo*-PPs are introduced within the vP.

Bringing our focus back to the genitive alternation, we have already demonstrated that there is a limited set of derived nominals allowing this. By looking for examples for the nominals deriving from the verb classes listed in Levin (1993), we concluded that nominals denoting senses (32a) or object alternation (32b) (particularly in the culinary context) license *apo*-PPs most frequently. See also (7) in Section 2.

- (32) a. i                    esθisi/                    gefsi                    tis                    sokolatas/                    apo  
 DEF.SG.NOM sensation.SG.NOM taste.SG.NOM DEF.SG.GEN chocolate.SG.GEN of  
 ti                    sokolata  
 DEF.SG.ACC chocolate.SG.ACC  
 ‘the sensation/taste of the chocolate’
- b. to                    kopsimo/                    psisimo/                    ðagoma                    tu  
 DEF.SG.NOM cutting.SG.NOM roasting.SG.NOM bite.SG.NOM DEF.SG.GEN  
 kreatos/                    apo to                    kreas  
 meat.SG.GEN of DEF.SG.ACC meat.SG.ACC  
 ‘the cutting/roasting/bite of the meat’

Nominals derived from verbs of motion also allow *apo*-PPs, although not in such high frequency:

- (33) a. i                    kinisi                    ton                    planiton                    / apo tus  
 DEF.SG.NOM movement.SG.NOM DEF.PL.GEN planet.PL.GEN of DEF.PL.ACC  
 planites  
 planet.PL.ACC  
 ‘the movement of the planets’
- b. to                    kolibi                    ton                    aθliton/                    ?apo tus  
 DEF.SG.NOM swimming.SG.NOM DEF.PL.GEN athlete.PL.GEN of DEF.PL.ACC  
 aθlites  
 athlete.PL.ACC  
 ‘the swimming of the athletes’

A closer look at the behavior of the derived nominals that license alternating *apo*-PPs suggests that, in this context, they do not pattern with complex event nominals but with result nominals. In other words, derived nominals licensing *apo*-PPs are not ambiguous between a complex event reading/structure and a result reading/structure as they only have the latter. This means that they do not have an argument structure supported by a verbal component. Hence, the *apo*-PP they license should be analyzed similarly to *apo*-PPs found with result nominals, i.e., similarly to possessive *apo*-PPs, see Section 7.

Moreover, this view correctly predicts the distribution already presented in (8d) and (17c) according to which we should not find derived nominals licensing two types of *apo*-PPs; since these nominals do not have a complex event structure when their internal argument surfaces

as an *apo*-PP, they are not expected to license *apo*-PPs introducing external arguments. In this case, they behave like any result or non-derived nominal, which licenses only one possessor-like argument, see also Section 8.

Grimshaw's (1990) criteria for distinguishing complex event nominals from result ones provide the necessary evidence for this hypothesis. On the one hand, the constructions under discussion do not tolerate aspectual (*for-x-time*) modifiers (34), a property characteristic of result nominals.

- (34) a. \*i kinisi apo tus planites ja  
 DEF.SG.NOM movement.SG.NOM of DEF.PL.ACC planet.PL.ACC for  
 ekatomiria xronja  
 million.PL.ACC year.PL.ACC  
 'the movement of the planets for millions of years'
- b. \*to kopsimo apo to kreas ja ðeka  
 DEF.SG.NOM cutting.SG.NOM of DEF.SG.ACC meat.SG.ACC for ten  
 lepta  
 minute.PL.ACC  
 'the cutting of the meat for ten minutes'
- c. \*to kitrinizma apo ta fila ja ðeka  
 DEF.SG.NOM yellowing.SG.NOM of DEF.PL.ACC leaf.PL.ACC for ten  
 meres  
 day.PL.ACC  
 'the yellowing of the leaves for ten days'

Their interpretation as complex event nominals is available only in the presence of inflectional genitives. This is supported by the fact that aspectual modifiers are licensed in this case:

- (35) a. i kinisi ton planiton ja ekatomiria  
 DEF.SG.NOM movement.SG.NOM DEF.PL.GEN planet.PL.GEN for million.PL.ACC  
 xronja  
 year.PL.ACC  
 'the planets' movement for millions of years'
- b. to kopsimo tu kreatos ja ðeka lepta  
 DEF.SG.NOM cutting.SG.NOM DEF.SG.GEN meat.SG.GEN for ten minute.PL.ACC  
 'the meat's cutting for ten minutes'
- c. to kitrinizma ton filon ja ðeka meres  
 DEF.SG.NOM yellowing.SG.NOM DEF.PL.GEN leaf.PL.GEN for ten day.PL.ACC  
 'the leaves' yellowing for ten days'

On the other hand, when accompanied by an *apo*-PP, derived nominals can be pluralized, another indication that they constitute result nominals:

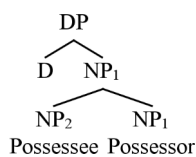
- (36) a. meletun tis kinisis apo tus planites.  
 study.3PL DEF.PL.ACC movement.PL.ACC of DEF.PL.ACC planet.PL.ACC  
 ‘They study the movements of the planets.’
- b. prosekste ta kopsimata apo to kreas.  
 be.careful.IMP.2PL DEF.PL.ACC cutting.PL.ACC of DEF.SG.ACC meat.SG.ACC  
 ‘Be careful with the cuts of the meat.’
- c. ?ta kitrinizmata apo ta fila ine  
 DEF.PL.NOM yellowing.PL.NOM of DEF.PL.ACC leaf.PL.ACC are  
 enðiksis asθenias.  
 indication.PL.NOM illness.SG.GEN  
*lit.* ‘The yellowings of the leaves are indications of illness.’

Therefore, it is the case that *apo*-PPs found with derived nominals should be analyzed parallel to possessors of non-derived nominals.<sup>13</sup> We turn to an analysis for non-derived nominals next.

## 7 The structure of SMG *apo*-PPs with non-derived nominals

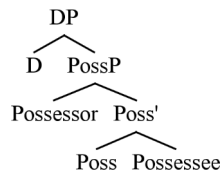
Inflectional genitives instantiating possessors do not have a uniform structure since the (in)alienable distinction creates variation. Roughly speaking, the term alienable refers to possessees that can be separated from their possessor. In contrast, the term inalienable refers to possessees that are inseparable from their possessor (Bally 1996), see also Nichols (1988), Chappell & McGregor (1989), Aikhenvald (2012; 2019), and Haspelmath (2017). According to Alexiadou (2003), inalienable possessors are introduced as complements of the possessive nominal (37a), while alienable ones are external arguments introduced by a dedicated Poss(essor)P (37b); see also Guéron (1985), Vergnaud & Zubizarreta (1992), Español-Echevarría (1997), den Dikken (2015), among others. For Michelioudakis et al. (2024), both types of possessors are introduced in [Spec, nP].

- (37) a. *Inalienable Possession Structure*



<sup>13</sup> An alternative analysis could be maintained for nominals deriving from verbs of motion, or verbs whose argument shows similarities with the argument instantiating the moving entity. Consider that the argument of some motion verbs (e.g., the verb *kinume* ‘move’ from which *kinisi* ‘movement’ in (33a) derives) exhibits a mixed behavior; it combines properties of internal arguments and properties of external ones, see Folli & Harley (2006; 2020), Zubizarreta & Oh (2007), and Wood & Marantz (2017), among others. For these cases, it could be assumed that the *apo*-PP draws on the external-like nature of the argument and introduces it as such, i.e., the *apo*-PP functions as a *by*-phrase and, thus, it should receive an analysis parallel to *by*-phrases.

b. *Alienable Possession Structure*



Besides evidence provided by Alexiadou (2003) and the authors listed in the paragraph above, the structural difference between (in)alienable possessors is depicted in the available quantifier-scope readings. Although inalienable possessors are ambiguous between a surface and an inverse scope reading (38a), alienable ones are not (38b); the latter allow only for the inverse scope reading. Specifically, (38a) means either that a different leg of each table broke (i.e., the front-right of one table and the back-left of another – inverse scope reading) or that the same leg of each table broke (i.e., the front-right of both tables – surface scope reading). The sentence in (38b) means that there was a different toy that each kid owned, e.g., one kid owned a toy car and a second kid owned an action figure, and these toys broke (inverse scope reading), not that there was the same toy that each kid owned, e.g., each kid owned an action figure of the same kind, and all action figures broke (\*surface scope reading). This provides additional support to the analysis that inalienable possessors are introduced lower than the possessee nominals, i.e., as complements, whereas alienable ones are introduced higher, i.e., in a specifier position.

- (38) a. *espase ena pođi kaθe trapezju.*  
 break.PST.3SG a leg.SG.ACC each table.SG.GEN  
*lit.* ‘A leg of each table broke.’
- b. *espase ena pexniđi kaθe peđju.*  
 break.PST.3SG a toy.SG.ACC each kid.SG.GEN  
*lit.* ‘A toy of each kid broke.’

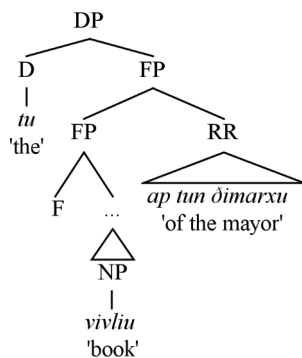
In this respect, *apo*-PPs behave like inalienable genitive possessors, as they license both scope readings independent of the type of relationship they express. The sentence in (39a), which contains an inalienable possessor, is ambiguous between the two readings available also for (38a). The sentence in (39b) is also ambiguous, in contrast with (38b), as it means that a different toy belonging to each kid broke (inverse scope reading) or that a toy owned by every kid broke (surface scope reading).

- (39) a. *espase ena pođi apo kaθe trapezi.*  
 break.PST.3SG a leg.SG.ACC of each table.SG.ACC  
*lit.* ‘A leg of each table broke.’
- b. *espase ena pexniđi apo kaθe peđi.*  
 break.PST.3SG a toy.SG.ACC of each kid.SG.ACC  
*lit.* ‘A toy of each kid broke.’

This points towards the hypothesis that *apo*-PPs are complements in all their uses under discussion. The findings of the previous sections also suggest that SMG *apo*-PPs with non-derived nominals should be analyzed in terms of complement selection. The fact that *apo*-PPs are not allowed to stack provides further support since, according to the traditional view, a complement of a head is unique. This holds because complements are selected constituents, and each head can select only one constituent. This assumption also captures the fact that the post-nominal is the most natural position for *apo*-PPs.

Meanwhile, the comparison between SMG and GG leads to the conclusion that a parallel analysis cannot be maintained because the freer distribution and interpretation of GG *apo*-PPs contrast significantly with the restricted SMG *apo*-PPs. (40) presents a simplified version of the structure Michelioudakis et al. (2024) propose. In this representation, the PP *ap tun ðimarxu* ‘of the mayor’ in GG is introduced as a reduced relative clause (RR) that adjoins within the DP, above a functional projection responsible for hosting adjectives (FP). This hypothesis cannot be maintained for their SMG counterparts.

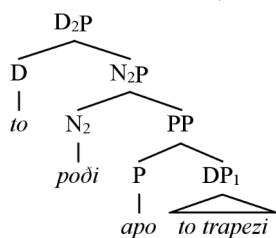
(40) *GG apo*-PPs as reduced relative clauses



Selection is, in principle, compatible with several analyses, including mere selection of the PP by the head nominal, introduction of the PP in a small clause, or via a relator. In other words, the complexity of the inner DP structure may vary.

An analysis for possessor *apo*-PPs in terms of mere selection would look like (41): the *apo*-PP would be directly selected by the possessee nominal.

(41) *SMG apo*-PPs analysis 1: Possessee selects PP



An advantage of this is that it creates a parallel with PPs interpreted as *sources*. To our knowledge, there is no in-depth investigation of the syntax behind sources within the DP. As already shown in (5b), sources in SMG are introduced as inflectional genitives or as *apo*-PPs. In fact, their realization as inflectional genitives is not productive in SMG where the prepositional alternative is preferred. Introducing sources as inflectional genitives was more common in earlier stages of Greek, see Mertyris (2014). Traditionally, sources are analyzed as complements of the head nominal, i.e., as having the syntax in (41), but see more below.

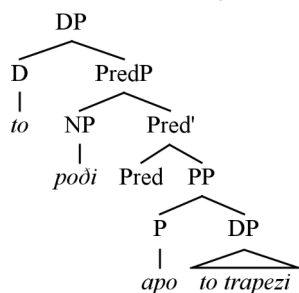
Under this hypothesis, *apo*-PPs are not expected to be extracted or fronted, see Safir (1987); since they are DP-internal, they should be able to do so only along with the head nominal, see also Angelopoulos & Michelioudakis (2023). This is indeed born out as already presented in Section 4.

The fact that NPs and PPs can be relativized together (42) provides further support for this analysis. Keenan (1987) shows that head nominals should be relativized together with their modifiers, not without them:

- (42) to            pođi<sub>i</sub>            apo to            trapezi            pu    espase<sub>i</sub>,...  
 DEF.SG.NOM   leg.SG.NOM   of   DEF.SG.ACC   table.SG.ACC   that   break.PST.3SG.  
 ‘The leg of the table that broke...’

According to an alternative hypothesis, the constituent selected by D is larger as it contains a predicative structure, i.e., a small clause (SC) headed by Pred (43). In this SC, the possessor *apo*-PP is in the complement position, whereas the head ‘possessee’ nominal constitutes the subject of predication. This analysis still accounts for the facts that *apo*-PPs occur naturally in the post-nominal position and cannot stack (because they remain in a complement position).<sup>14</sup>

- (43) *SMG apo-PPs analysis 2: Pred selects PP*



<sup>14</sup> Note that neither of the analyses presented here can account for the fact demonstrated in (27) according to which in case of stacking oddness occurs when the outermost “possessor” surfaces as an *apo*-PP while the innermost one bears genitive-case marking. Even though we do not have an explanation, it is important that this is not a case of ungrammaticality, but reduced acceptability. This means that there should be no structural reason to exclude such formations. In other words, our analysis should be able to generate them, and indeed, all three alternatives we provide do so. Therefore, it is the case that we should seek the oddness of *to stiriyma tu pođju apo to trapezi* in (27b) outside syntax.

This hypothesis is motivated by the fact that the *apo*-PP can be found in a post-copular position within a *be*-sentence, i.e., in a position typical for predicates (44a). Interestingly, this is also true for source-like *apo*-PPs (44b). This means that sources within the DP could possibly have a structure parallel to (43). Investigating the syntax of sources, however, is left for future research.

- (44) a. to pođi ine apo to trapezi.  
 DEF.SG.NOM leg.SG.NOM is of DEF.SG.ACC table.SG.ACC  
*lit.* ‘The leg is of the table.’
- b. to nero ine apo tin piji.  
 DEF.SG.NOM water.SG.NOM is of DEF.SG.ACC spring.SG.ACC  
*lit.* ‘The water is of the spring.’

The structure in (43) presents the PP as a DP-internal constituent. Therefore, it still explains its inability to be extracted and fronted on its own, as well as its ability to relativize with the head ‘possessee’ nominal.<sup>15</sup>

A common characteristic between the structures in (41) and (43) is that they treat *apo* as a lexical preposition. Thus, they can be maintained if one assumes that the lexical semantics of *apo* exist and play a role in the distribution. Recall that Alexiadou & Stavrou (2020) argue that *apo* is a lexical, contentful preposition, at least in partitives. However, as already mentioned in Section 5, a considerable amount of research does not agree on this. The fact that *apo* functions as the complement of another preposition/adverb (45a) and does not license clitics (45b) constitutes sufficient evidence to characterize it as a non-lexical preposition.

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<sup>15</sup> Interestingly, the structures presented in (41) and (43) have also been proposed for partitive constructions as the ones presented in (i). Building on the idea that the possessive interpretation of *apo*-PPs is actually a re-interpretation of a partitive relation, holding a parallel between the structures assumed for possessive *apo*-PPs and partitives is a desideratum. This is further reinforced by the fact that partitives also use an *apo*-PP to signal the superset; see also Barker (1998) and Uriagereka (1998):

- (i) ena/đio/kapja/merika/pola apo ta peđja  
 one/two/some/a.few/many of DEF.PL.ACC kid.PL.ACC  
 ‘one/two/some/a few/many of the kids’

Alexiadou & Stavrou (2020) claim that partitives can receive analyses comparable to the ones mentioned above. In the spirit of Cardinaletti & Giusti (2006) and Danon (2012), the authors suggest that the quantifier can directly select the *apo*-PP (ii). This would be in parallel with the structure in (41).

- (ii) [QP/NumP [Q/Num *pola*] [PP [P *apo*] [DP *ta peđja* ]]]

Alternatively, partitives may involve a small-clause structure, in a structure similar to (43). As presented in (iii), the *apo*-PP is the complement of a predicative head X, an abstract ‘HAVE’ that also leads to the possession readings, while an empty noun ‘ones’ serves as the subject of predication. The whole small clause is then selected by the quantifier.

- (iii) [QP [Q *pola*] [FP F [XP ‘ones’ [X’ [X HAVE] [PP [P *apo*] [DP *ta peđja*]]]]]]

Although the authors do not favor one analysis over the other, they explicitly say that it is an advantage if the analysis can create a parallelism between partitivity and possession. The structure in (iii) does so by positing the existence of a predicate that has the meaning of possession at its core.

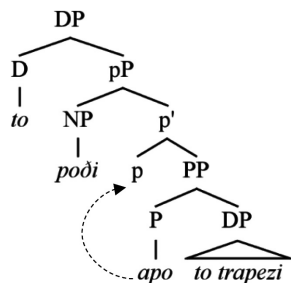
- (45) a. pano (apo to trapezi)  
 over of DEF.SG.ACC table.SG.ACC  
 ‘over the table’
- b. pano/ \*apo tu  
 over of CL.GEN.M/N.3SG  
*lit.* ‘over/of it’

In view of this fact, we should seek a third alternative that could treat *apo* as a functional preposition. Kampanarou (2021; 2023) offers such an alternative. In her discussion on sentence-level possession in SMG (46), she argues that the possession relationship is indeed construed within a small clause.

- (46) a. o Janis exi pola vivlia.  
 DEF.SG.NOM John.NOM have.3SG many.PL.ACC book.PL.ACC  
 ‘John has many books.’
- b. to trapezi ine me tesera pođja.  
 DEF.SG.NOM table.SG.NOM be.3SG with four leg.PL.ACC  
 ‘The table has four legs.’

Independent evidence leads to the conclusion that this small clause is not headed by a Pred head but rather by a light preposition, a small *p*, that, roughly speaking, functions as a relator between the possessor and the possessee in the sense of den Dikken (2006). More specifically, this small *p* is a functional layer projected above lexical *P* that makes it transitive by licensing a position for an external argument. According to this view, which is inspired by Svenonius (2010), *p* constitutes the counterpart to Kratzer’s (1996) Voice. The hierarchy of the constituents in this case remains the same as the *apo*-PP is in the complement position and the head nominal is in the subject position. Adopting her view in the context of our discussion leads to the hypothesis that possessor *apo*-PPs are introduced via small clauses headed by *p* as in (47):

- (47) SMG *apo*-PPs analysis 3: *p* selects PP



The benefit of this analysis is that it predicts that non-lexical prepositions can define possessive relationships. English *of* could be such an example. Assuming the purely functional layer of *p*, we could posit that functional prepositions like English *of* are merged in this layer. As there

would be no lexical semantics provided by the preposition, there would be no restrictions on the relationships established between the possessor and the possessee.

Moreover, this structure can account for prepositions that are being grammaticalized via reanalysis in the sense of Roberts & Roussou (2009), see also Kayne (2000: 314). Kampanarou (2023: 257–260) discusses several cross-linguistic examples of a P-to-p reanalysis. The Greek preposition *me* ‘with’ found in sentence-level possessives (46b) arguably receives the same analysis. In brief, the structure in (47) can capture the grammaticalization of a preposition as follows: a lexical preposition is inserted in P. Once it becomes “transitive”, in the sense that it takes an external argument, it projects p and a specifier position to host it. The preposition moves from P to p, like a transitive verb that moves from v to Voice. When the prepositions lose their lexical status and become fully functional elements, they no longer move from P to p, but they are directly inserted into p. In this latter stage, prepositions are fully grammaticalized.<sup>16</sup>

Note that the proposal according to which prepositions can merge in P and move to p also captures the notion of semi-lexical (or semi-functional) categories as proposed by van Riemsdijk (1998). This is a welcome result as Alexiadou & Stavrou (2020) point out. According to van Riemsdijk, each category has a number of lexical and functional characteristics. Each representative of a category gathers a different set of these characteristics. Thus, it ends up closer to one of the two ends. In this sense, each category ranges from lexical to functional while defining a semi-lexical or semi-functional area in the middle. In our case, we could say that *apo* is a representative of the prepositional category, exhibiting properties that bring it closer to the functional end.

Finally, it is important that this analysis does not disregard the parallel with partitives but allows us to reconcile it in a slightly different way. If the partitive small-clause structure proposed by Alexiadou & Stavrou (2020) (see footnote 12) is combined with Kampanarou’s p-based analysis, we can assume that partitive *apo*-PPs are also introduced via a p-headed small clause; given that Kampanarou (2023) argues that this p-head exists in sentential possessives as well, this head can definitely serve as the abstract ‘HAVE’ predicative head required for partitives according to Alexiadou & Stavrou.

In any case, maintaining an affinity between partitivity and possession is necessary to explain the distribution presented in the previous sections. Our observations that *apo*-PPs are preferred in part-whole relations, unlike kinships and ownerships, and lack readings available to inflectional genitives can be explained if we assume that an *apo*-PP does not constitute a true expression of possession but rather a ‘roundabout’ for a possessive interpretation which is coerced through a partitive one. This view also predicts that proper names and pronouns, or even animate entities,

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<sup>16</sup> The ‘P-to-p’ reanalysis hypothesis can also explain why functional prepositions have never entered a process of loss; once Greek replaced, in its diachrony, case marking with a prepositional phrase, the latter remained. Given that functional categories are not expected to disappear because they constitute structural necessities, prepositions that constitute functional heads never got lost. We thank a reviewer for bringing this to our attention.

should resist *apo*-PPs because they denote entities that can hardly be conceived of as sets unless marked with plural or when modified, as is the case (see Section 5).

Although the latter analysis seems to account better for the facts, it is essential that all the aforementioned analyses are viable and suitable to our main point of focus here, as they distinguish SMG inflectional genitives from the *apo*-PPs that seem to replace them in terms of syntax.<sup>17</sup> Each one is compatible with our claim that the syntax behind case-marked possessors is not similar to the syntax underneath possessive *apo*-PPs. Both of them are also distinct from the syntax of *apo*-PPs in varieties where inflectional genitives are entirely lost.

## 8 Conclusions

The findings of this study strongly suggest that the so-called genitive alternation in Standard Modern Greek is not a case of morphological substitution but rather an instance of structural variation. Our comparative analysis of inflectional genitives and *apo*-PPs in the contexts of possessives and derived nominals reveals that *apo*-PPs do not simply differ in the realization component; instead, they enter the syntactic structure through a distinct mechanism. We maintain that inflectional genitives are introduced as arguments of the nominal head (or its functional layers), whereas *apo*-PPs in non-complex event nominals are introduced as complements, through predication or not.

The current situation in SMG is that inflectional genitives are being drastically delimited while *apo*-PPs are gaining ground. The presence of paradigm gaps in the declension system of nominals in SMG has facilitated the increased use of *apo*-PPs. However, the fact that the alternation is not restricted in these cases but, in general, extends to contexts characterized by the presence of a concomitant part-whole reading suggests that *apo*-PPs emerge independently.

Our comparative examination of dialectal evidence, particularly from Northern Greek dialects, where inflectional genitives of common nouns have been entirely lost, is fundamental for this hypothesis. Section 4 highlights that SMG *apo*-PPs exhibit distinct semantic and syntactic properties compared to their dialectal counterparts.

The contrast between SMG and these dialects suggests that language change is still in progress for SMG. This change, though, is not driven by simple morphological attrition but by broader syntactic restructuring. The pathway is indeed familiar if one looks at the diachrony of the language or Indo-European languages in general. However, it remains to be seen whether the inflectional case system will be entirely substituted by a preposition-based one or whether the distribution of the prepositional substitutes will remain constrained by interpretative and register-based factors.

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<sup>17</sup> As a reviewer points out, an independent piece of evidence suggesting that *apo*-PPs do not constitute a morphological/realizational alternant of inflectional genitives is brought by pronominal clitics, since their genitive plural form is syncretic with the accusative, as already presented in Sections 2 and 3. This suggests that if there was an alternant for the genitive in the realizational component this would be the accusative case.

Finally, this study has implications for syntactic theory, as it considers the evolution of morphological case systems and the development of adpositional alternatives in the context of a language with a very distinctive characteristic: the so-called *single genitive restriction*. This relates to the fact that SMG allows only one genitive-case-marked argument (or one of its alleged alternates) within the DP. To our knowledge, this has also been reported for Icelandic as well (see Wood 2023 for a recent discussion and references). English, on the other hand, constitutes one of the languages that do not show such restriction since ‘s-genitives can cooccur with *of*-genitives. Romance languages and Hebrew also allow multiple genitives within the DP.

An explanation that has been entertained in the literature to derive this contrast bears on the A/A'-status of [Spec, DP]. Horrocks & Stavrou (1987), Alexiadou et al. (2007), and Alexiadou (2001; 2025), among others, extensively argue that the single genitive restriction in Greek stems from the fact that [Spec, DP] in Greek is an A' position, i.e., it does not allow the introduction of arguments. Thus, Greek DP has only one position for introducing arguments, namely, the complement position. Abney (1987), Corver (1990), Haegeman (2004), and Georgi & Salzmänn (2011), among others, show that this does not hold for English. In this language, [Spec, DP] is argued to be an A-position, i.e., a locus where arguments can be introduced. Therefore, besides the complement position (where *of*-genitives are most likely to be inserted), there is also [Spec, DP] where the nominal preceding the ‘s-genitive is introduced. An explicit such explanation is offered in Alexiadou (2025). Romance and Hebrew allow multiple genitives of the same type (PPs) within the DP. For this reason, these genitives are often analyzed as adjuncts, see Borer (2013).

Our study shows that the single genitive restriction applies to PPs as well. Thus, Greek DP is essentially characterized by a single *argument* restriction. This might relate to the fact that, since both arguments are in the same domain, not more than one of the same type is allowed, as the presence of two genitives or two PPs would violate *Distinctness* (Richards 2010); see Alexiadou (2025). In view of this, further research in this direction is required to investigate whether we should rethink the cross-linguistic picture. This would improve our understanding of the genitive alternation and would shed light on how case systems evolve and how adpositional ones substitute for them.

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## Abbreviations

1 first person; 2 second person; 3 third person; ACC accusative; CL clitic; DEF definite determiner; DIM diminutive; F feminine; GEN genitive; IMP imperative; M masculine; N neuter; NOM nominative; PL plural; PST past; SG singular.

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## Competing interests

The authors have no competing interests to declare.

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