

Obligatory Resumption
in Greek Free and Restrictive Relatives

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1 Introduction

Our paper is embedded within a broader theoretical debate concerning the status of resumption at the interfaces. Two opposing views have been put forward.

According to the view popularised by Pesetsky (1998), resumption is a purely PF phenomenon: all there is in the narrow syntax is a copy of the moved DP. The resumptive clitic is the result of partial pronunciation of this copy that takes place in a post-syntactic component.

According to the view maintained by Boeckx (2001, 2003), resumption is present in the narrow syntax in the form of a clitic which doubles the moved DP. To phrase it differently, resumption and clitic doubling are reduced to the same input (for Greek, see Alexiadou & Anagnostopoulou 2000, and Alexiadou & Varlokosta 2007).

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In this paper, we aim to contribute to this discussion by focusing on obligatory resumption (mainly on resumption of indirect objects (IOs)) in Greek free relatives (FRs), and in Greek restrictive relatives introduced by the complementizer *pu* ‘that’ (*pu*-RRs). These constructions are exemplified in (1a) and (1b), respectively:¹

- (1) a. Ghnórisa ópjon * (tu) édhosan tin ipotrofia.
 met-1Sg who-3SgMAcc cl-3SgMGen gave-3Pl the scholarship-Acc
 ‘I met whoever they gave the scholarship to.’
- b. Ghnórisa ton mathiti pu * (tu) édhosan tin ipotrofia.
 met-1Sg the student-Acc that cl-3SgMGen gave-3Pl the scholarship-Acc
 ‘I met the student that they gave the scholarship to.’

We demonstrate that, at least in Greek, IO resumption, like IO clitic doubling, displays a number of narrow-syntactic properties that would resist a principled explanation within a purely morphological account (section 2). Based on this evidence, we develop a narrow-syntactic account that treats both types of clitics – resumptive and doubling ones, alike – as D-type pronouns merged at the left periphery of the DP_{IO}. Furthermore, we argue that the obligatory character of IO resumptive clitics, as opposed to the optional character of IO

¹ We use the following abbreviations: 1, 2, 3= first, second, third person; Acc=Accusative; cl=clitic; CP=Complementizer Phrase; D-Linking=Discourse Linking; DO=Direct Object; DP=Determiner Phrase; F=Feminine; FM=Future Marker; FR=Free Relative; Gen=Genitive; Gend=Gender; IO=Indirect Object; Imp=Imperative; LF=Logical Form; M=Masculine; Neg=Negation; Neut=Neuter; Nom=Nominative; NP=Noun Phrase; Num=Number; PCC=Person Case Constraint; Per=person; PF=Phonological Form; Pl=Plural; Poss=Possessor; RR=Restrictive Relative; Sg=Singular; T=Tense; TP=Tense Phrase; WCO=Weak Cross Over.

doubling clitics is related to a principle that requires visibility of inherent case at LF (section 3). Under this view, IO resumption in Greek is the product of the relation between the narrow syntax and LF. What is left for PF is the mere task of morphological realization.

2 The evidence²

In Greek, resumptives (see (2), repeated from (1), above) draw from the same morphological paradigm as doubling clitics (3). To be precise, they are the weak forms of the demonstrative *aftós-i-ó*, and of the first and second personal pronouns *eména* and *eséna* (Table 1: Mackridge 1985; Holton et al. 1997, 2004; Joseph & Philippaki-Warbuton 1987; Drachman 1997: 221).³

- (2) a. Ghnórisa ópjon tu édhosan tin ipotrofia.
 met-1Sg who-3SgMAcc cl-3SgMGen gave-3Pl the scholarship-Acc
 ‘I met whoever they gave the scholarship to.’

² Section 2 is a revised version of Daskalaki (2008: chapter 4).

³ Whereas doubling clitics can be first, second, or third person, resumptives are mainly third person. This is an epiphenomenon of the fact that Restrictive and Free Relatives resist first and second person antecedents. First and second person resumptives are productive in non restrictive relatives (i):

- (i) Eména, pu **mu** íches ðósi ton lógho su
 me-1SgAcc that cl-1SgGen promised-2Sg
 óti tha me voithísis, tóra me adimetopízis étsi.
 that FM me-1SgAcc help-2Sg now cl-1SgAcc treat-2Sg so

b. Ghnórisa ton mathití pu tu édhosan tin ipotrofia.

met-1Sg the student-Acc that cl-3SgMGen gave-3Pl the scholarship-Acc

‘I met the student that they gave the scholarship to.’

(3) Tu édhosan tu Kósta tin ipotrofia.

cl-3SgMGen gave-3Pl the Kostas-Gen the scholarship-Acc

‘They gave Kostas the scholarship.’

Table 1: The morphological paradigm of clitics in Greek

	WEAK/ SHORT PRONOUNS									
Nom	-	-	tos	tí	to	-	-	tí	tes	ta
Gen	mu	Su	tu	tis	tu	mas	sas	tus	tus	tus
Acc	me	Se	ton(e)	ti(n)(e)	to	mas	sas	tus	tis/ (tes)	ta
PER	1Sg	2Sg	3SgM	3SgF	3SgNeut	1Pl	2Pl	3PlAcc	3PlFem	3PlNeu
NUM										
GEND										

In what follows, we will provide evidence suggesting that IO resumptives, like IO doubling clitics, are present in the narrow syntactic component of the grammar (section 2.1). Furthermore, we will argue that IO resumptives are obligatory, because they recover the inherent case of their antecedent (section 2.2.)

2.1 Resumption in the narrow syntax

(i) *Placement*: The first set of data that are suggestive of the narrow syntactic status of IO resumptives comes from clitic placement. As will become evident, they display the same word order patterns as doubling clitics (on clitic placement in Greek, see Mavrogiorgos 2010 and references therein, Anagnostopoulou 2003, Philippaki-Warbuton et. al. 2004, Terzi 1999).

To begin with, we know that IO doubling clitics do not occur in the position of their theta interpretation (4a). Rather, they are proclitics (4b).

- (4) a. *édhosan tu tu Kósta tin ipotrofia.
 gave-3Pl cl-3SgMGen the Kostas-Gen the scholarship-Acc
 ‘They gave Kostas the scholarship.’
- b. Tu édhosan tu Kósta tin ipotrofia.
 cl-3SgMGen gave-3Pl the Kostas-Gen the scholarship-Acc
 ‘They give Kostas the scholarship.’

That the same is true for IO resumptives is shown in (5) with FRs, and in (6) with *pu*-RRs.⁴

- (5) a. * Ghnórisa ópjon édhosan tu ipotrofia.

⁴ It is true that resumption, unlike clitic doubling, is never enclitic. However, this is an epiphenomenon of the fact that enclisis in Greek occurs exclusively in root contexts (i) (on the properties of enclisis in Greek, see Mavrogiorgos 2010: chapter 6; Terzi 1999).

- (i) dhos tu tu Kosta tin ipotrofia.
 give-2SgImp cl-3SgMGen the Kostas-Gen the scholarship-Acc
 ‘Give Kostas the scholarship.’

met-1Sg who-SgMAcc assigned-3Pl cl-3SgMGen scholarship-Acc

‘I met whoever they gave the scholarship to.’

b. Ghnórisa ópjon tu édhosan ipotrofia.

met-1Sg who-Acc cl-3Sg Gen gave-3Pl scholarship-Acc

‘I met whoever they gave a scholarship to.’

(6) a.* Ghnórisa ton mathití pu édhosan tu ipotrofia.

met-1Sg the student-Acc that assigned-3Pl cl-3SgMGen scholarship-Acc

‘I met the student that they gave the scholarship to.’

b. Ghnórisa ton mathití pu tu édhosan ipotrofia.

met-1Sg the student-Acc that cl-3SgMGen gave-3Pl scholarship-Acc

‘I met the student that they gave a scholarship to.’

What is more, IO doubling clitics are always adjacent to the inflected verb (7).

(7) tu (*chtes) édhosan (chtes) tu Kosta tin ipotrofia.

cl-3SgMGen (*yesterday) gave-3Pl (yesterday) the Kostas-Gen the scholarship-Acc

‘They gave yesterday Kostas the scholarship.’

As shown in (8), and (9), the same holds for IO resumptives in free and restrictive relatives, respectively.

(8) Ghnórisa ópjon tu (*chtes) édhosan (chtes) ipotrofia.

met-1Sg who-SgMAcc cl-3SgMGen (*yesterday) gave-3Pl (yesterday) scholarship-Acc

‘I met whoever they gave a scholarship to yesterday.’

(9) Ghnórisa ton mathití

met-1Sg the student-Acc

pu tu (* chtes) édhosan (chtes) ipotrofia.

that cl-3SgMGen (*yesterday) gave-3Pl (yesterday) scholarship-Acc

‘I met the student that they gave a scholarship to yesterday.’

Finally, in the context of periphrastic tenses, IO doubling clitics ‘climb’ to the higher auxiliary head, despite the presence of intervening adverbs (10).

(10) a. *échun (ídhi) tu dhósi tu Kósta tin ipotrofia.

have-3Pl (already) cl-3SgMGen given tu Kosta-Gen the scholarship-Acc

‘They have already given Kostas the scholarship.’

b. tu échun (ídhi) dhósi tu Kósta tin ipotrofia.

cl-3SgMGen have-3Pl (already) given the Kostas-Gen the scholarship-Acc

‘They have already given the Kostas the scholarship.’

The pattern is repeated in (11) with IO resumptives in FRs, and in (12) with IO resumptives in *pu*-RRs.

(11) a. *Opju échun (ídhi) tu dhósi ipotrofia.

who-SgMGen have-3Pl (already) cl-3SgMGen given scholarship-Acc

‘Whoever they have (already) given a scholarship to.’

b. Opju tu échun (ídhi) dhósi ipotrofia.

who-SgMGen cl-3SgMGen have-3Pl (already) given scholarship-Acc

‘Whoever they have (already) given a scholarship to.’

- (12) a. *Tu mathití pu échun (ídhi) tu dhósi ipotrofia.
 the student-Gen that have-3Pl (already) cl-3SgMGen given scholarship-Acc
 ‘The student that they have (already) given a scholarship to.’
- b. Tu mathití pu tu échun (ídhi) dhósi ipotrofia.
 the student-Gen that cl-3SgMGen have-3Pl (already) given scholarship-Acc
 ‘The student that they have (already) given a scholarship to.’

Resumptive placement, therefore, provides us with the first counterargument to a purely PF account of resumption. If the resumptive clitic realized the case and phi feature substructure of the lower copy of movement, the question that would have to be addressed is how it would reach its pre-verbal position. Introducing verb and/or clitic movement to the PF component could derive the right serialization. However, it would depart from the well motivated claim that head movement is a narrow syntactic phenomenon (arguments for the narrow syntactic status of head movement are provided in Lechner 2005 and Roberts 2009. For Greek clitic movement as syntactic movement see Anagnostopoulou 2003, Mavrogiorgos 2010, and references therein).

(ii) *Sensitivity to the selecting predicate*: To proceed to the evidence from selection, it can be shown that IO resumptives, like IO doubling clitics, are sensitive to the subcategorization properties of the selecting predicate.

That doubling clitics are sensitive to the selecting predicate is shown in (13). As pointed out in Anagnostopoulou (2003:fn2), a restricted set of verbal predicates, including *epofelúme* ‘to take advantage of’, *proighúme* ‘to precede’, *proedhrévo* ‘to preside over’, *proipárcho* ‘to

pre-exist’, and *iperischío* ‘to prevail’ do not allow cliticization, or clitic doubling of their (Genitive) DP complements.

- (13) a. *Iperischíi tu simathití tu*
 prevails-3Sg the classmate-Gen his
 ‘He prevails over his classmate.’
- b. **Tu iperischíi.*
 cl-3SgMGen prevails-3Sg
 ‘He prevails over him.’
- c. **Tu iperischíi tu simathití tu.*
 cl-3SgMGen prevail-3Sg the classmate-Gen his
 ‘He prevails over his classmate.’

Significantly, the exact same predicates do not allow resumption of their complements (see (14) for resumption in FRs, and (15) for resumption in *pu*-RRs).

- (14) **Lipíthika ópjon tu iperíschises.*
 felt-sorry-1Sg who-SgMAcc cl-3SgMGen prevailed-2Sg
 ‘Intended meaning: I felt sorry for the person you prevailed over.’
- (15) **Lipíthika ton mathití pu tu iperíschises.*
 felt-sorry-1Sg the student-Acc that cl-3SgMGen prevailed-2Sg
 ‘Intended meaning: I felt sorry for the student that you prevailed over.’

As reported in the literature, IO doubling clitics cancel WCO violations. Thus, in (16a), the IO *tu káthe pedhjú* ‘every child’ cannot bind the pronominal variable inside the subject *i mitéra tu* ‘his mother’ (Anagnostopoulou 2003). In the presence of an IO doubling clitic, though, the bound variable reading becomes an option (16b).

- Significantly for our purposes, the same effect can be replicated with IO resumptives in free (17) and restrictive relatives (18). Thus, in (17a) and in (18a), the pronominal *tu* within the subject DP *i adherfi tu* ‘his sister’ cannot be bound by the fronted IO. In (17b) and (18b), on

(iv) *Intervention effects*: Along the same lines, resumptives, like doubling clitics, can be shown to cancel intervention effects.

It has been shown that clitic doubling of genitives is obligatory in constructions in which a theme argument undergoes NP-movement, such as Experiencers of psychological predicates (19a) (Anagnostopoulou 1999), Experiencers of raising predicates (19b), Goals of passivised ditransitives (19c), and Goals of unaccusatives (19d) (Markantonatou 1994; Anagnostopoulou 2003). The phenomenon has been attributed to the fact that the intervening genitive blocks NP movement of the lower theme to T (see Anagnostopoulou 1999, 2003). It is only when the genitive is doubled that it ceases to function as an intervener.

- (19) a. *(tu) arési tu Kosta i Ghlosologhía.
 *(cl-3SgMGen) like-3Sg the Kosta-Gen the Linguistics-Nom
 ‘Kostas likes Linguistics.’
- b. I María *(tu) fánike ípopti tu Kósta.
 the Maria-Nom *(cl-3SgMGen) seemed-3Sg suspicious-F the Kostas-Gen
 ‘Maria seemed suspicious to Kostas.’
- c. ?*(tu) dhóthike i ipotrofia tu Kosta.
 ?*(cl-3SgMGen) was-given-3Sg the scholarship-Nom the Kostas-Gen
 ‘Kostas was given the scholarship.’
- d. *(tu) írthe tu Kosta o loghariasμός.
 *(cl-3SgMGen) came-3Sg tu Kosta-Gen the bill-Nom
 ‘Kostas received the Bill.’

who-SgMGen ?*(cl-3SgMGen) was-given-3Sg the scholarship-Nom

‘whoever was given the scholarship.’

d. ópju *(tu) írthe o loghariasμός.

who-SgMGen *(cl-3SgMGen) came-3Sg the bill-Nom

‘Whoever received the bill.’

(21) a. Tu mathití pu *(tu) arési i Ghlosologhía

the student-Gen that *(cl-3SgGen) like-3Sg the Linguistics-Nom

‘The student who likes Linguistics’

b. Tu mathití pu *(tu) fánike ípopti i María.

the student-Gen that *(cl-3SgMGen) seemed suspicious the Maria-Nom

‘To the student that Maria seemed suspicious.’

c. Tu mathití pu ?*(tu) dhóthike i ipotrofia.

the student-Gen that ?*(cl-3SgMGen) was-given-3Sg the scholarship-Nom

‘The student that was given the scholarship.’

d. Tu mathití pu *(tu) írthe o loghariasμός.

the student-Gen that *(cl-3SgMGen) came-3Sg the bill-Nom

‘The student that received the bill.’

Once again, the very fact that resumption, like clitic doubling, interferes with the syntactic operation of NP movement further reinforces its narrow syntactic status.

(v) *D-Linking*: Finally, special reference needs to be made to the insensitivity of IO clitics/resumptives to the D-Linking nature of their doubled DP/antecedent (for Greek, see Iatridou 1990. For Spanish, see Jaeggli 1982, 1986, and Suñer 1988, and for Romanian see

Dobrovie-Sorin 1990). Consider, first, IO clitic doubling. Even though IO clitics are not perfectly acceptable with quantificational antecedents (22), they are definitely more acceptable than DO clitics (23).

(22) a. Dhen (? tu) édhosa kanenós leftá.

Neg (? cl-3SgMGen) gave-1Sg anyone-Gen money-Acc

‘Literally: I didn’t give (??him) anyone money.’

b. Dhen (? tu) édhosa kanenós mathití leftá.

Neg (?cl-3SgMGen) gave-1Sg any student-Gen money-Acc

‘Literally: I didn’t give (??him) any student money.’

c. Dhen (?tu) édhosa kanenós

Neg (?cl-3SgMGen) gave-1Sg any

apó tus mathités tu Máriu leftá.

from the student-Gen the Marios-Gen money-Acc

‘Literally: I didn’t give (?him) any out of Marios’ students money.’

(23) a. Dhen (*ton) ídha kanéna.

Neg (*cl-3SgMAcc) saw-1Sg anyone-Acc

‘I didn’t see (*him) anyone.’

b. Dhen(*?ton) ídha kanéna mathití.

Neg (*cl-3SgMAcc) saw-1Sg any-Acc student-Acc

c. Dhen(?*ton) ídha kanéna após tus mathités tu Máriu.

Neg (*cl-3SgMAcc) saw-1Sg any-Acc from the students-Acc the Marios-Gen

‘I didn’t see any out of Marios’ students.’

The same observations extend to IO resumption. In FRs, IO resumptives are licit independently of whether they are bound by a bare quantificational FR pronoun (24a), a FR pronoun complemented by an NP (24b), or a partitive FR phrase (24c).

- (24) a. Voíthisa ópjon tu édhoses to tiléfonó mu.
 helped-1Sg who-Acc cl-3SgMGen gave-2Sg the number cl-1SgPossGen
 ‘I helped whoever you gave my number to.’
- b. Voíthisa ópjon peláti tu édhoses to tiléfonó mu.
 helped-1Sg which client-Acc cl-3SgMGen gave-2Sg the number cl-1SgPossGen
 ‘I helped whichever client you gave my number to.’
- c. Voíthisa ópjon apó tus pelátes tu Kósta
 helped-1Sg which from the client-PlAcc the Kostas-Gen
 tu édhoses to tiléfonó mu.
 cl-3SgMGen gave-2Sg the number cl-1SgPossGen
 ‘I helped whichever one of Kostas’ clients you gave my number to.’

Accordingly, in *pu*-RRs, IO resumptives are insensitive to the D-Linking of their antecedent (25).

- (25) a. Voíthisa kápjon pu tu édhoses to tiléfonó mu.
 helped-1Sg someone-Acc that cl-3SgMGen gave-2Sg the number cl-1SgPossGen
 ‘I helped someone that you gave my number to.’
- b. Voíthisa ton peláti pu tu édhoses to tiléfonó mu.
 helped-1Sg the client-Acc that cl-3SgMGen gave-2Sg the number cl-1SgPossGen

‘I met whoever they gave the scholarship to.’

b. Ghnórisa ton mathití pu *(tu) édhosan tin ipotrofia.

met-1Sg the student that *(cl-3SgMGen) gave-3Pl the scholarship-Acc

‘I met the student that they gave the scholarship to.’

We would like to suggest that the above patterns receive a principled explanation, once we take into consideration the fact that the genitive case of IOs is inherent.⁷ Given that inherent case is interpretable, it will have to remain visible at the LF component of the grammar.⁸ With this fairly standard assumption in mind, let us reconsider the contrast between clitic doubling and resumptive relatives.

In clitic doubling constructions, the requirement that inherent case be visible is always met. This is because the inherent case value is retained both on the clitic, and on the IO, and as a result, the former can be omitted.

In FRs, and *pu*-RRs, on the other hand, the relativized IO, and generally, any relativized argument, surfaces in the case required by the matrix predicate (accusative in the examples at

⁷ It should be born in mind that the qualification ‘inherent’ depends on the diagnostic criteria we chose. For instance, in Anagnostopoulou’s (2003: 66-69) terms, the genitive of IOs is ‘non-structural’, because, even though it is theta related, and it does not enter into case alternations, it may be freely subject to clitic doubling. What is crucial for our purposes, is that the genitive in question is theta-related, and consequently, of relevance to LF.

⁸ See also Richards’ (2007) who makes the same assumption in order to account for case stacking in Lardil.

hand).⁹ It follows that, in the absence of an alternative device, the inherent case of the relativized IO won't survive at LF. As a result, the IO will fail to receive the goal interpretation and the derivation will crash. Under this view, therefore, IO resumption is obligatory, because it guarantees that inherent case survives at LF.¹⁰

Our account, in addition to capturing the difference between IO clitic doubling and resumption makes two additional predictions that are borne out by the data.

First, it predicts that IO resumption will be optional in constructions in which the fronted IO retains its genitive case value. These include (a) FRs and *pu*-RRs, in which the case required by the matrix is the same as the case required by the relative predicate (28), (b) interrogatives (29), and (c) RRs introduced by the inflected relative pronoun *o opíos* (30) (on the optionality of IO resumption in these constructions, see Alexopoulou 2006a).

(28) a. Tilefónisa ópju ?(tu) édhosan tin ipotrofía.

phoned-1Sg who-3SgMGen ?(cl-3SgMGen) gave-3Pl the scholarship-Acc

'I met whoever they gave the scholarship to.'

b. Tilefónisa tu mathití pu ?(tu) édhosan tin ipotrofía.

phoned-1Sg the student-Gen that ?(cl-3SgMGen) gave-3Pl the scholarship-Acc

'I phoned the student that they gave the scholarship to.'

(29) Pju (tu) édhosan tin ipotrofía?

⁹ Our assumptions concerning the technical implementation of case alternations will be spelled out in the next section.

¹⁰ Of course, this does not preclude the possibility that obligatory resumption satisfies a non-case related requirement, such as the circumvention of intervention effects. Such examples were discussed in section 2.1.

who-3SgMGen (cl-3SgMGen) gave-3Pl the scholarship-Acc

‘Who did they give the scholarship to?’

(30) Ghnórisa ton mathití tu opíu ?(tu) édhosan tin ipotrofia.

met-1Sg the student who-Gen ?(cl-3SgMGen) gave-3Pl the scholarship-Acc

‘I met the student that they gave the scholarship to.’

Second, it predicts that direct object (DO) resumption will not be required in FRs (31a), or in *pu*-RRs (31b). This is because DOs bear structural accusative, which is uninterpretable at LF. As a consequence, they may have their case value altered in the course of the derivation.¹¹

¹¹ It should be clarified that, whereas case considerations explain why DO resumptives are unnecessary in FRs, and in *pu*-RRs, they do not explain why they are impossible. A possibility worth exploring is that the illicitness of DO resumptives relates to the fact that, unlike their IO counterparts, they are only compatible with D-Linked antecedents (see Kotzoglou and Varlokosta 2005). This line of approach correctly predicts that, in examples such as (i), where the antecedent is interpreted as presupposed in the discourse, DO resumptives are rendered grammatical.

(i) pjon mathiti tis Irinis su sistisan?
 which student the Irene-Gen you-Gen introduced-3Pl?

 mu sistisan to mathiti tis Irinis
 me-Gen introduced-3Pl the student-Acc the Irene-Gen

- (31) a. Irthan ópji (*tus) kalese.
 arrived-3Pl who-PIMNom cl-3PlMAcc invited-2Sg
 ‘Whoever you invited arrived.’
- b. Irthan i mathites pu (*tus) kalese.
 arrived-3Pl the students that cl-3PlMAcc invited-2Sg
 ‘The students that you invited arrived.’

Note that the intuition that IO resumption recovers inherent case is found in other case-related accounts of resumption (see Bianchi 2004, Broihier 1995, Daskalaki 2011, Pesetsky 1998, Salzmann 2006, and Spyropoulos 2007, among others). However, in these analyses recoverability is understood as a condition on the pronunciation/deletion of case at the PF. Thus, Pesetsky (1998), citing Broihier (1995), suggests that the inherent case (‘oblique case’, in his terms) of relativized arguments has to be pronounced because it is semantically contentful. However, this formulation raises a technical issue related to our understanding of the interfaces. That is, in a system where PF has no access to LF, it is not clear how and why

pu (ton) epenesan stin akadhimía
 that (him) praised-3Pl in-the academy
 ‘Which of Irene's students did they introduce to you? They introduced to me Irene's student that they praised in the Academy.’ (Kotzoglou and Varlokosta 2005:33)

As we will suggest in the following section, the observed contrast between DO and IO (resumptive) clitics could be captured by assuming that these two types of clitics have a different featural content: whereas DO (resumptive) clitics are positively marked with respect to a topicality feature [+topicality], IO (resumptive) clitics are underspecified [+/- topicality].

pronunciation would be sensitive to the semantic content of cases. In Daskalaki's (2011) alternative formulation, the genitive case of the relativized IO resists deletion because it is morphologically more marked than the case of the antecedent. This account rests on two assumptions: (a) that cases can be decomposed in more primitive features (Alexiadou and Müller 2008), as in (32), and (b) that deletion of the lower copy of movement is licensed iff the features of the lower copy are a proper subset of the features of the higher copy.

- (32) Nom [-Governed, -Oblique]
 Acc [+Governed, -Oblique]
 Gen [+Governed, + Oblique]

Even though the reasoning is consistent with our understanding of the interfaces, it wrongly predicts that deletion of the lower accusative in examples such as (31) above will be ungrammatical.

2.3 Interim Summary

Summing up, in this section we established that IO resumption, like IO clitic doubling, is present in the narrow syntactic component of the grammar. Our evidence was based on its placement, on its sensitivity to the subcategorization properties of the selecting predicate, and on its interference with WCOs and intervention effects (Table 2):

Table 2: Narrow Syntactic properties of IO resumptives/doubling clitics in Greek

	IO Resumption	IO Clitic Doubling
Proclitic	√	√
Sensitivity to the Selecting	√	√
Predicate		

Intervention Effects	√	√
Obviation of WCOs	√	√

Furthermore, we attributed its obligatory character to an LF principle that requires that inherent case survive at LF. Resumption, under this view, is the product of the relation between narrow syntax and LF. What is left for PF is the task of morphological realization.

In what follows, we will proceed to the implementation of these ideas.

3 The analysis

In view of the above evidence, we will develop a narrow syntactic account that reduces IO resumption to clitic doubling (along the lines of Boeckx 2001, 2003). More precisely, we will suggest that the IO resumptive is the spell-out of a D-head which Merges at the left periphery of the DP_{IO}, and eventually incorporates to vAPPL.¹² Whether the presence of the resumptive D is obligatory or not, is determined at the LF component of the derivation. Before proceeding to the details of our account, let us briefly motivate the assumptions that we make.

3.1 Assumptions

Our account is developed within Kayne's (1994) antisymmetric analysis of relativization, according to which the relative CP is the complement of an external D head (for Greek, see

¹² Our account builds on Mavrogiorgos' (2010) analysis of IO cliticization/clitic doubling (based on Anagnostopoulou 2003). Note that any other account that captures the construction of an A-chain between the doubled DP and the clitic (such as that of Anagnostopoulou 2003, which involves movement of features to the cliticization position, or that of Roberts 2010 which does not involve movement at all but assumes the building of an Agreement chain) would be fine in principle, although there must be a device present ensuring that the deletion and re-specification of the case feature on the doubled DP is possible.

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Alexiadou and Anagnostopoulou 2000, Alexiadou and Varlokosta 2007, and Alexopoulou 2006b). Within this framework, we further make the following three assumptions.

3.1.1 The IO Object Moves to its Surface Position

First, we assume that the resumed IO Moves to its surface position. Movement is an integral part of any raising analysis of relative clause formation. Its application in Greek resumptive relatives is justified by the fact that resumptives in Greek, unlike resumptives in Semitic languages, are sensitive to strong islands (33-34) (Alexopoulou 2006a). The interference of IO resumptives with WCOs, and intervention effects (section 2.1), which, at first glance, poses a problem for an A' movement analysis, will be discussed in section 3.2.

(Adjunct Island)

- (33) a. * Sinándisa ópjon éfijes afú tu éd hoses tin prosklisi.
met-1Sg who-SgMAcc left-2Sg after cl-3SgMGen gave-2Sg the invitation-Acc
'*I met whoever you left after you gave them the invitation.'

- b. * Sinándisa ópjon ghnorízo ton típo (Relative Clause Island)
met-1Sg who-SgMAcc know-1Sg the guy-Acc
pu tu anéthese tin erghasía.
that cl-3SgMGen assigned-3Sg the task-Acc
'*I met whoever I know the guy that assigned him the task.'

(Adjunct Island)

- (34) a. * Sinándisa ton fitití pu éfijes
met-1Sg the student-Acc that left-2Sg
afú tu éd hoses tin prosklisi.

after cl-3SgMGen gave-2Sg the invitation-Acc

‘*I met the student that you left after you gave them the invitation.’

(Relative Clause Island)

b. * Sinándisa ton mathití pu ghnorízo ton típo
 met-1Sg the student that know-1Sg the guy-Acc
 pu tu anéthese tin erghasía.
 that cl-3SgMGen assigned-3Sg the task-Acc

‘*I met the student that I know the guy that assigned him the task.’

3.1.2 The IO object moves from [Spec, vAPPL]

Second, we assume that the input to relativization is a double object construction (Daskalaki 2008), rather than a prepositional ditransitive (Alexiadou and Anagnostopoulou 2000). Our assumption is based on the observation that the relativized IO in Greek has to be animate (35), patterning in this respect with DP goals (36a), rather than with prepositional goals (36b) (for a detailed discussion of the two options, see Daskalaki 2008).

(35) a. * Episkéftika ópja chóra tis éstila etísis.
 visited-1Sg which country cl-3SgFGen sent-1Sg applications
 ‘*Litterally: I visited whichever country I sent it applications.’

b. *Episkéftika ti chóra pu tis éstila etísis.
 visited-1Sg the country that cl-3SgFGen sent-1Sg applications
 ‘*Litterally: I visited the country that I sent it applications.’

(36) a. *Estila tis Aglías etísis.

sent-1Sg the England-Gen applications

‘*I sent England applications.’

b. Estila etísis stin Aglía.

sent-1Sg applications to-the England

‘I sent applications to England.’

Further, following Anagnostopoulou (2003), Marantz (1993) and McGinnis (1998), we assume that DP goals are introduced by a semi functional vAPPL head.

3.1.3 The relativized argument can have its case altered

Third, in order to account for the observation that relativized arguments always surface with the case required by the matrix predicate, we will assume that arguments may have their case altered in the course of the derivation (different implementations of case alternations can be found in Daskalaki (2008, 2011) for A' chains, in Bejar and Massam (1999), and Fuji (2005) for A chains, in Richards (2007) for case stacking phenomena, and in Merchant (2006) for a number of different phenomena). Specifically, we will assume that relativized arguments bearing structural case may have their case value deleted and re-specified under Agree/concord with the external D. Deletion of genitive, on the other hand, converges only when the matrix predicate is also sub-categorized for genitive (28), or when genitive is retained on a resumptive/doubling clitic (27a).¹³ This is because, as discussed in section 2.2, genitive is

¹³ A question that arises at this point is why it is possible for genitive to delete from the lower copy of the IO, but not from its doubling/resumptive clitic. We believe this can be taken to follow from the fact that in our account the IO and its resumptive/doubling clitic constitute two

interpretable, and, consequently, relevant for the theta interpretation of the relativized argument at LF.¹⁴

3.2. Basic derivational steps

With these preliminaries in mind, we are now in the position to explain the main components of our analysis. For the sake of exposition, we will consider the derivation of a resumptive FR such as (37). However, *pu*-RRs can be shown to comprise similar derivational steps.

- (37) Ghnórisa ópjon tu édhosan tin ipotrofia.
met-1Sg who-SgMAcc cl-3SgMGen gave-3Pl the scholarship-Acc
‘I met whoever they gave the scholarship to.’

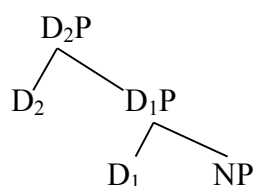
Step 1: At a first step, we argue, the IO clitic (D₂) is merged in the left periphery of the D₁P_{IO}, as shown in (38) (specifiers are not included since they are irrelevant to the discussion, and the same applies to any possible functional projections between D₁ and NP). D₁

distinct syntactic objects. Alternatively, we could assume that case is assigned to the clitic, and that the IO moves before case percolation takes place.

¹⁴ Regarding examples such as (28), a reviewer asks how the externally assigned genitive instructs LF to assign the relativized argument its internally required theta role. Under the view that the genitive of IOs and of objects of verbs of communication is associated with the same general theta role (GOAL), the interpretation of the relativized argument shouldn't be a problem.

encodes definiteness, whereas D_2 (i.e. the IO clitic) encodes topicality (following a suggestion made by Alexiadou, Haegeman, and Stavrou 2007).¹⁵

(38)



Step 2: Subsequently, the derived D_2P_{IO} is merged in [Spec, vAPPL] and it gets both case and theta marked by the vAPPL head. The latter, we assume, has interpretable phi features and genitive case. Assignment of genitive case does not render the D_2P_{IO} inactive (see Anagnostopoulou 2003), which accounts for why it agrees with v^* in phi-features.

Step 3: After case assignment, the IO clitic (i.e. D_2) incorporates into vAPPL. Following Roberts (2010), we will be assuming that incorporation is a syntactic operation that is subject to the subset principle, according to which the incorporee must contain a subset of the features on the incorporator. In this particular case, if we assume that the clitic pronoun contains phi-features, a D-feature, and case (*pace* Roberts 2010), the vAPPL head must contain at least these features in order for incorporation to take place. Although PCC effects might suggest that the phi-features that are found on the resumptive clitic are distributed among the vAPPL head and the v^* -head (see step 4 below), we could either assume that a token of a feature type (in this case number on

¹⁵ This particular proposal for clitic doubling could be related to the observed phenomenon that clitics in Greek cannot double bare nouns, although they may double quantifiers (including indefinites) under certain conditions (e.g. D-linking). This restriction on doubling would be explained if bare nouns and (some) indefinites are not DPs (see Alexopoulou, Folli, and Tsoulas, this volume), assuming that the D_2 head may only c-select a D-type complement.

vAPPL) would license incorporation of a constituent containing phi-features, or alternatively that the clitic incorporates into the v*-vAPPL complex (which contains all the tokens of the features found on the clitic). The latter alternative would be possible in Roberts's system, as incorporation is contingent on Agree, and according to our analysis the resumptive clitic agrees with both the vAPPL head and the v*-head.

Step 4: v* is merged. It probes the incorporated IO clitic and checks its person features (based on proposals by Anagnostopoulou 2003 for the PCC. For a discussion and alternatives see Michelioudakis 2011). The incorporated clitic moves along with vAPPL to v*, forming an A-chain between the clitic and the D₁P_{IO} in situ (see Anagnostopoulou 2003, and references therein).

Step 5: After T is merged, the IO clitic, which has incorporated into vAPPL, moves along with vAPPL to T. The head of the A-chain is now in T.

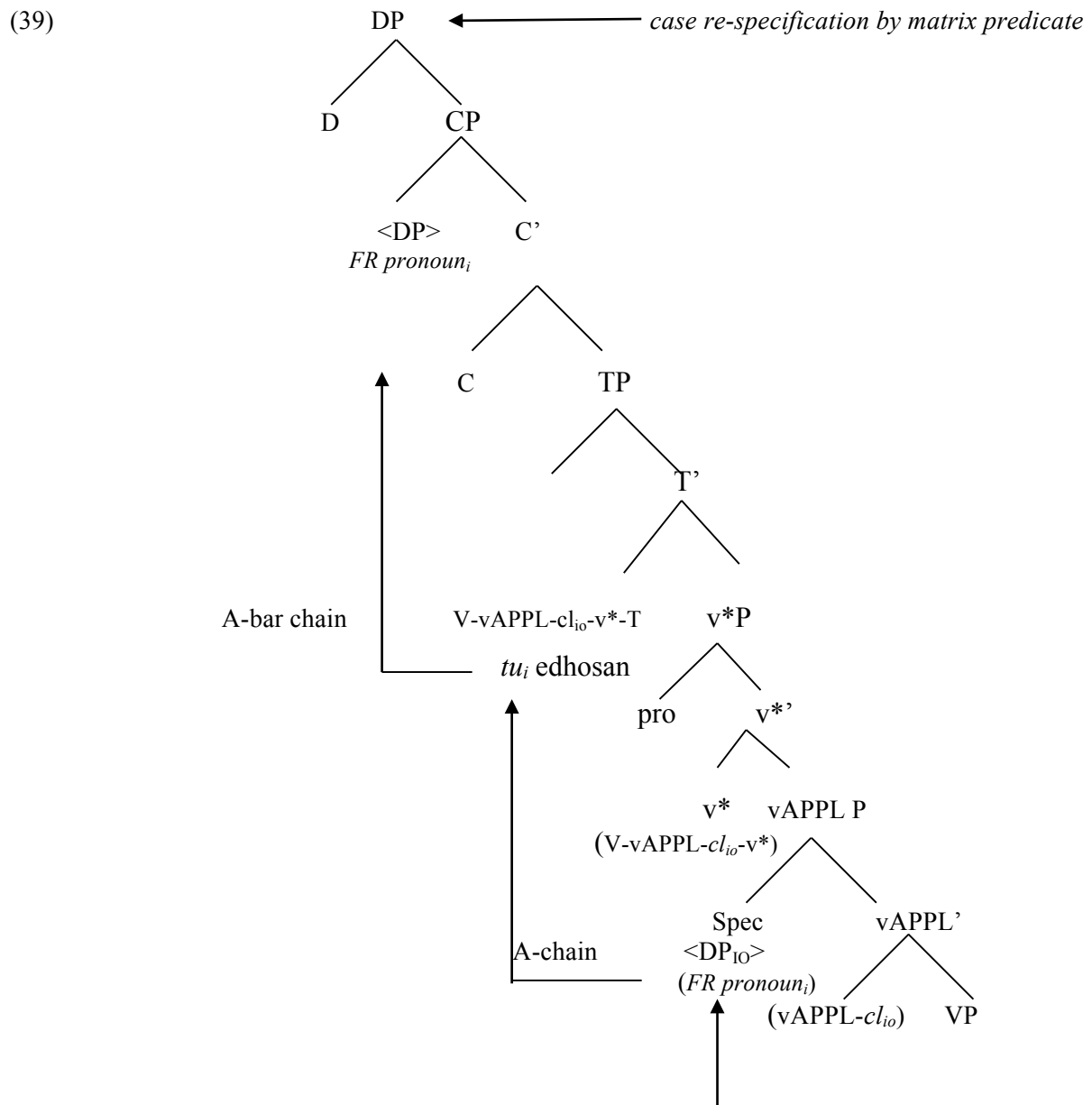
Step 6: The D₁P_{IO} is A-bar moved from the derived A-position in T to the Specifier of CP. Specifically, D₁P_{IO} is probed in the TP domain because it is linked to the clitic in T. Furthermore, it gets probed by the C-head because, being headed by a relative pronoun, it bears a *wh*-feature.¹⁶

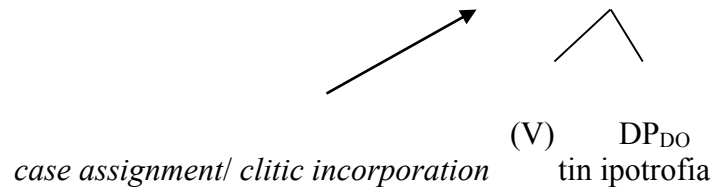
¹⁶ An issue that arises at this point is why the C head probes the D₁P_{IO} substructure, rather than the higher D₂P. The latter option would result in both the clitic and the IO being attracted to C. In order to avoid this result, we can either assume that the *wh*-feature does not percolate to the higher D₂, or that movement takes place before feature percolation. We would like to thank an anonymous reviewer for pointing out this problem to us.

Step 7: The relative CP Merges with an external D, which is eventually case marked by the matrix predicate. The fronted D_1P_{IO} has its case re-specified through concord with the external D.

Step 8: Finally, at LF the genitive marked IO clitic is interpreted as the goal argument of the relative predicate, and so is the fronted D_1P through co-reference.

A schematic summary of the suggested derivation is provided in (39), below:





3.3 What our analysis captures and how

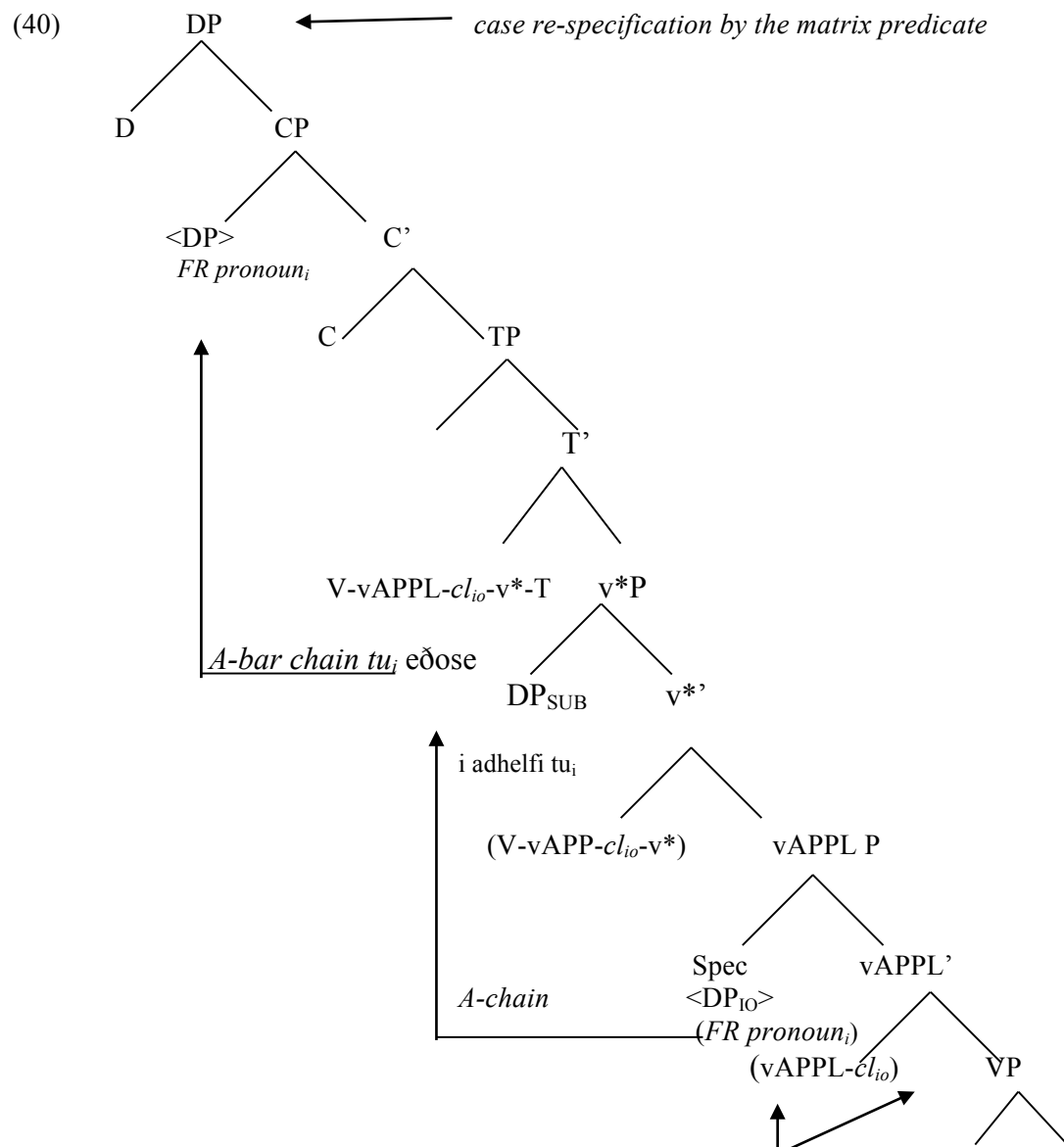
Significantly for our purposes, the above derivation captures in a straightforward manner the LF, and narrow syntactic properties of IO resumption that we discussed in section 2. Let us consider them in turn:

(i) *Clitic Placement*: the position of IO clitics with regard to their verbal host follows from the fact that after being incorporated to vAPPL, they move along with it to T (Step 6) (in Greek, as in other Null Subject Languages, the verb (parts) move(s) to T obligatorily – see Alexiadou & Anagnostopoulou 1998).

(ii) *Selection*: the sensitivity of IO clitics to the selecting predicate can be explained if we assume that the verbs which do not allow for an IO resumptive/doubling clitic do not have a vAPPL head. Rather, they have a genitive DP that is licensed by a V-head by theta relation. We assume that both the theta role and the genitive case are assigned by such V-related parts such as prepositions: e.g. *iper* (cf. *ipertero tinos/ iperischio tinos*).

(iii) *WCOs*: the cancellation of WCOs in the presence of IO clitics follows from the fact that the IO clitic has moved to T, forming an A-chain with the D_1P_{IO} (see Anagnostopoulou 2003). As a result of this, the D_1P_{IO} is interpreted in the T position, which is higher than the subject position (assuming that the subject is reconstructed to the base Spec, vP position). A-bar movement of the D_1P_{IO} starts off from this higher, derived position, ensuring that no variable

appears below the subject. By way of illustration, consider the derivation of an example such as (17b), which we give in (40), below:



(iv) *Intervention Effects*: the cancellation of Intervention effects in the presence of IO clitics follows from the fact that the indirect object clitic (re)moves the DP_{IO} intervener to the minimal domain of the target (T), thus making Agree between T and the lower nominative DP_{DO} possible (see Anagnostopoulou 2003). A-bar movement of the D_1P_{IO} starts off from the derived position in T.

(v) *D-Linking*: the compatibility of IO clitics with non D-Linked antecedents could be taken to follow from the assumption that their D head is underspecified with respect to the feature of topicality. Hence, their contrast with DO clitics which are [+topicality].

(vi) *Obligatory occurrence*: Finally, the fact that IO resumption is obligatory is related to a principle that requires that interpretable case features be visible at LF.¹⁷

¹⁷ A reviewer asks whether our analysis may accommodate another type of obligatory resumption in Greek, namely the resumption of genitive possessors (i).

- (i) apozimiosan opjon kaike to spiti *(tu)
 compensated-3Pl who-Acc burned-3Sg the house *(cl-3SgMGenPoss)

Resumption of genitive possessors displays narrow syntactic properties (e.g. they may give rise to semantic effects based on their surface position –see Alexiadou and Stavrou 2000) so, ideally, we would like to maintain the claim that it is present in the narrow syntax in the form of a doubling clitic. This is not straightforward, because genitive possessors cannot be doubled

into the ways they interact, but also into the properties of a number of grammatical notions. For example, the treatment of inherent case in this paper suggests that case cannot be analysed as a purely PF phenomenon across all constructions, against what has been standardly assumed in the literature (e.g. Distributed Morphology). Moreover, the current model of the narrow syntactic component and its connection to the interfaces is put into test by the data of IO resumption: can the two interfaces communicate with each other or not, and why? In our analysis we kept the traditional grammar model intact and tried to derive the facts by positing the requirement that LF –related narrow syntactic features must survive until LF. However, other plausible grammar models could derive the same results in different ways. We think that our current knowledge of the interfaces and the evidence we have from obligatory resumption cannot distinguish between such grammar models, so further research is needed in order to decide which model is the right one.

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