Chapter 3

An asymmetry in backward control: Subject vs. object control

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In this paper we discuss an asymmetry in the distribution of backward control in Greek. Greek has been argued to have subject backward control; however, as we will show, the language lacks backward object control. We will account for this asymmetry by appealing to the nature of Backward Agree, which seems to require heads of the same type.

1 Aims and goals

In this paper, we discuss backward control configurations, focusing on Greek, a language showing a prima facie asymmetry between backward subject control (BSC), which is fully productive, and backward object control (BOC), which is severely limited. This is a puzzling state of affairs if Greek indeed has backward control understood as movement and spell-out of the lower copy of the chain, as has been argued in the literature. Based on new evidence, we argue that the movement approach to Greek BSC is an illusion. The correct analysis involves the formation of a chain between the phi-features of the matrix T, the phi-features of the embedded T and those of the embedded subject, which is possible as long as the embedded subject does not intervene between the matrix and the embedded T. The formation of such chains is possible due to the fact that Greek has pronominal agreement, being a pro-drop language (Alexiadou & Anagnostopoulou 1998;

Barbosa 2009). The formation of comparable chains is severely restricted in BOC configurations, which are only possible if the full embedded subject is either a clitic-doubled experiencer bearing dative or accusative case or an emphatic nominative anaphoric pronoun. We will discuss potential reasons why this should be so from the perspective of current approaches to Agree.

The paper is structured as follows. We first briefly summarize the arguments in Alexiadou et al. (2010) that Greek has backward subject control (BSC), as well as more recent arguments, recently presented in Tsakali et al. (2017), that this type of phenomenon does not involve scrambling and indeed instantiates agreement chains between a matrix T and an embedded subject. We then discuss the environments that have been argued to show object control in Greek and point out that there is an asymmetry between BSC (possible) as opposed to backward object control (BOC) (generally impossible) in Greek. We attribute the lack of BOC to the general unavailability of chain formation between a lower T and a higher Voice/*v*APPL head, which can be overridden under certain conditions.

2 Introduction

As has been discussed in the work of Polinsky & Potsdam (2006; henceforth 'P&P'), the movement analysis of control, put forth in Hornstein (1999), coupled with the copy-and-delete theory of movement, predicts that next to canonical/forward control patterns, where the lower copy of the moved element is deleted, there should also exist backward control patterns, where the higher copy is deleted. A third possibility, which we do not consider in this section, is resumption, where both copies are pronounced, as depicted in Table 1.

Table 1: Typology of control and raising in P&P (2006)

Copy pronounced		
Higher	Lower	Structure
✓	*	Forward Control (FC)
*	✓	Backward Control (BC)
✓	✓	Resumption

A lot of evidence has been provided in the literature for BC, which can be observed in several unrelated languages. For instance, BSC can be observed in several Nakh-Daghestanian languages, in Northwest Caucasian, in Malagasy, and

in Korean; see e.g. Fukuda's (2008) overview. The claim that BC exists in natural language is the strongest argument brought by the movement analysis of control against the PRO-based approach; see e.g. Landau (1999) and subsequent work.

In Alexiadou et al. (2010), we addressed Landau's (2007) objections to BSC. One of the objections raised in Landau (2007) concerned the rarity of the phenomenon in one of the languages in which BC has been argued to exist, namely Tsez: in Tsez, only *two* verbs display BC. In other languages, the numbers hardly exceed five. Most commonly, the BC verbs are aspectuals (*begin*, *continue*, *stop*), which also have a standard raising analysis. On the basis of Greek and Romanian control constructions, we argued that BC is real in these two languages, as it is exhibited by the same verbs that allow OC (hence the 'rarity' objection doesn't hold for Greek and Romanian).

Recently, a re-evaluation of the empirical picture was put forth in Tsakali et al. (2017) that can be summarized as follows: what has been analyzed as BSC in Greek, Romanian and Spanish is an illusion. In Spanish, it involves complex predicate formation, while in Greek/Romanian it involves co-reference with an embedded subject. Specifically, BC in Greek is a side-effect of the availability of an agreement chain between a null main subject and an overt embedded subject in all types of subjunctives (*na*-clauses) and, to a certain extent, in indicatives (*that*-clauses). While backward coreference is allowed in both types of clauses if the order is VSO or VOS, embedded SVO orders, which are available in indicatives, lead to a robust Principle C effect. Tsakali et al. (2017) thus propose that what has been analysed as BC actually reflects φ-agreement between matrix T, embedded T and the overt S(ubject), licit only if the S doesn't intervene between the two T heads, as in (1a), as opposed to (1b):

(1) a. $[\text{T}\varphi_k \ [_{\text{TP/CP}} \ T\varphi_k \ \text{DP}\varphi_k]]$
     b. $^*[\text{T}\varphi_k \ [_{\text{TP/CP}} \ \text{DP}\varphi_k \ T\varphi_k]]$

In what follows, we summarize both aspects of this discussion. Nevertheless, as we will show in §4, such co-reference is not available in the case of object control.

3 BSC in Greek: An epiphenomenon

In Greek, control is instantiated in a subset of subjunctive complement clauses, as the language lacks infinitives; see e.g. Varlokosta (1994) and references therein. These subjunctive complement clauses are introduced by the subjunctive marker

na (2). The embedded verb, similarly to the matrix verb, shows agreement in number and person with the matrix subject.[1]

(2) Greek
o   Petros   / ego kser-i   / -o **na** koliba-i / -o
the Peter.NOM / I   know-3SG / -1SG SBJV swim-3SG / -1SG
'Peter/I knows/know how to swim.'

The literature on Greek control recognizes two main types of subjunctive complements (but cf. Spyropoulos 2007 and Roussou 2009 for refinements): Obligatory Control (OC) ones and non-OC ones (NOC) (or *C(ontrolled)-subjunctives* and *F(ree)-subjunctives* in Landau's (2004) terminology).

1. OC/C-subjunctives are found as complements of verbs such as *ksero* 'know how', *tolmo* 'dare', *herome* 'be happy', *ksehno* 'forget', *thimame* 'remember', *matheno* 'learn', *dokimazo* 'try', aspectual verbs such as *arhizo* 'start/ begin', *sinehizo* 'continue'.

(3) a. *o Petros   kseri   na **kolimbao**
the Peter.NOM knows SBJV swim.1SG
Lit. 'Peter knows how I swim.'

b. *o Petros   kseri   na **kolimbai** i Maria
the Peter.NOM knows SBJV swim.3SG the Mary.NOM
Lit. 'Peter knows how Mary swims.'

2. NOC/F-subjunctives are found with e.g. volitional/future-referring predicates:

(4) a. o Petros   perimeni na **erthun**
the Peter.NOM expects   SBJV come.3PL
'Peter expects that they come.'

b. o Petros   elpizi na figi   i **Maria**
the Peter.NOM hopes SBJV go.3SG the Mary.NOM
'Peter hopes that Mary goes.'

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[1]*Na* has been analyzed as a subjunctive mood marker (cf. Philippaki-Warburton & Veloudis 1984), a subjunctive complementizer (Agouraki 1991; Tsoulas 1993) or a device to check EPP (Roussou 2009). Here we side with the first view.

Alexiadou et al. (2010) present evidence that *all* OC verbs in Greek allow BC. In fact, the subject DP can appear in a number of positions (here Greek differs from Tsez). Preverbal subjects are considered to be in a left-dislocated position, while post-verbal subjects are located within the *v*P; see Alexiadou & Anagnostopoulou (1998) for discussion. VSO and VOS orders have different information structure properties; see Alexiadou (1999; 2000) for discussion. Generally, the DP in the subjunctive complement agrees with both the low and the matrix verb in person and number:

(5) (o **Janis**)   emathe   (o **Janis**)   na pezi   (o **Janis**)
the John.NOM learned.3SG the John.NOM SBJV play.3SG the John.NOM
kithara (o   **Janis**)
guitar   the John.NOM
'John learned to play the guitar.'

The pattern in which the DP resides in the complement clause qualifies as a case of BC on the basis of P&P's argumentation. First, these constructions are bi-clausal (contra Roussou 2009), as can be shown on the basis of evidence from *negation* and *event modification.*
  Two separate negations are possible:

(6) a. **den** emathe   na magirevi o   Janis
not learned.3SG SBJV cook.3SG the John.NOM
'John didn't learn to cook.'

  b. emathe   na   **min** magirevi o   Janis
learned.3SG SBJV not cook.3SG the John.NOM
'John learned not to cook (i.e. 'John got into the habit of not cooking').'

  c. **den** emathe   na **min** magirevi o   Janis
not learned.3SG SBJV not cook.3SG the John.NOM
'John didn't learn not to cook (i.e. 'John still has the habit of cooking').'

The event of each clause can be modified independently:

(7) a. fetos   tolmise   **tesseris fores** na pirovolisi o   Janis
this.year dared.3SG four   times SBJV shoot.3SG the John.NOM
'This year there were four times that John dared to shoot.'

b. fetos   tolmise   na   pirovolisi **tesseris fores** o   Janis
this.year dared.3SG SBJV shoot.3SG four   times the John.NOM
'This year John dared to shoot four times (in a row).'

The subject is truly embedded, as it precedes both embedded objects and embedded VP-modifiers. Clause-final event adverbials have the potential of modifying either the matrix verb or the embedded one, depending on where they are situated:

(8)   a. ksehase na   ksevgali o   Janis   to pukamiso **teseris fores**
forgot   SBJV rinse   the John.NOM the shirt   four   times
'John forgot to rinse the shirt four times.' (*four rinsings/forgettings*)

b. ksehase **teseris fores** na   ksevgali o   Janis   to   pukamiso
forgot   four   times SBJV rinse   the John.NOM the shirt
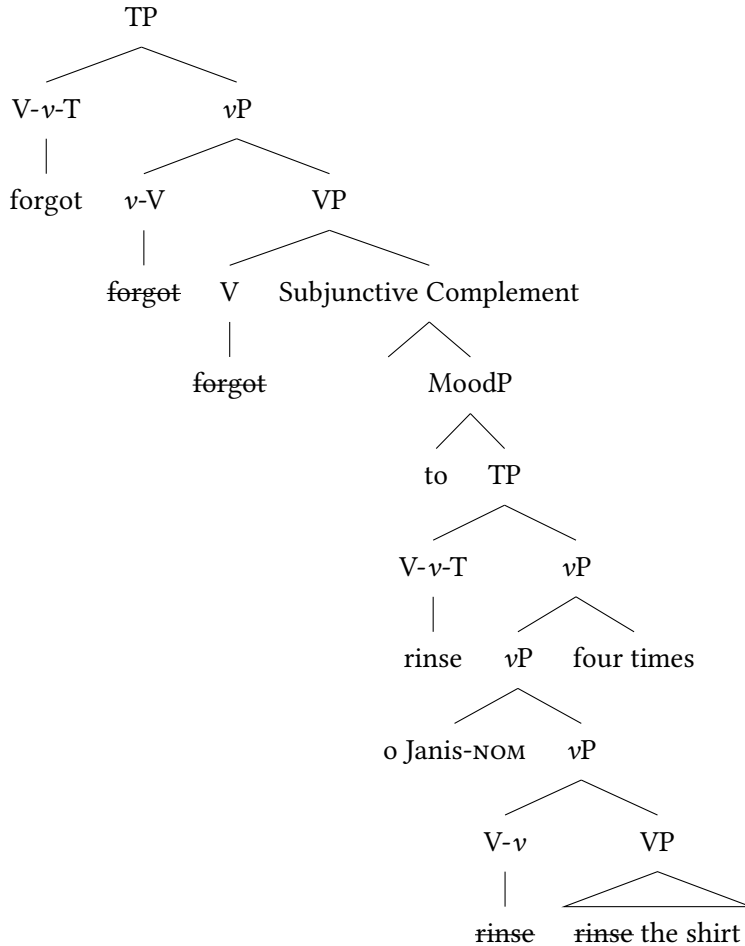'John forgot four times to rinse the shirt.' (*four forgettings*)

This difference in interpretation depends on the adjunction site of the adverb. When it modifies the matrix verb, it (right-)adjoins to the matrix *v*P or TP (9a). When it modifies the embedded verb, it adjoins to the embedded *v*P or TP (9b):

(9)   a.   High reading
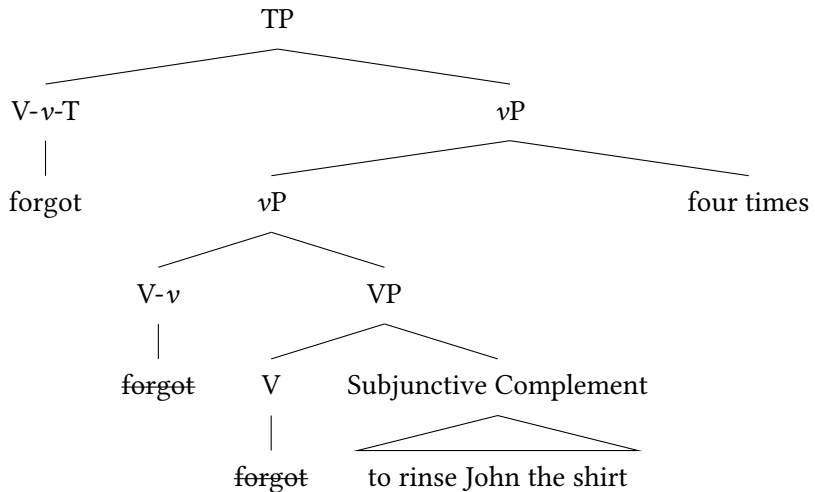
b. Low reading

Evidence from *negative concord* potentially suggests that in BC the subject does *not* belong to the higher clause and surface to the right of the embedded verb as a result of rightward scrambling. Negative quantifiers in Greek, a negative concord language, must be either in the clause containing sentential negation (10a) or in the c-command domain of a higher sentential negation (10b). They cannot be licensed by a negation in a lower clause (10c) (see Giannakidou & Merchant 1997):

(10) a. o Petros   dietakse *na* **min** apolithi **kanis**
          the Peter.NOM ordered SBJV not   was.fired nobody.NOM
          'Peter ordered that nobody was fired.'

    b.   o   Petros   **den** dietakse *na* apolithi **kanis**
        the Peter.ɴᴏᴍ not ordered ѕʙᴊᴠ was.fired nobody.ɴᴏᴍ

        'Peter did not order that anybody was fired.'

    c. * **kanis**   dietakse *na* **min** apolithi o   Petros
        nobody.ɴᴏᴍ ordered ѕʙᴊᴠ not fired.ɴᴀᴄᴛ the Peter.ɴᴏᴍ

The same pattern is found in OC contexts:

(11)   a. **kanis**   **den** tolmise   *na* fai   to tiri
          nobody.ɴᴏᴍ not dared.3ѕɢ ѕʙᴊᴠ eat.3ѕɢ the cheese.ᴀᴄᴄ

          'Nobody dared to eat the cheese.'

      b. **den** tolmise   *na* fai   **kanis**   to tiri
          not dared.3ѕɢ ѕʙᴊᴠ eat.3ѕɢ nobody the cheese

          'Nobody dared to eat the cheese.'

      c. * **kanis**   tolmise   *na* **min** fai   to tiri
          nobody dared.3ѕɢ ѕʙᴊᴠ not eat.3ѕɢ the cheese

If the subject in BC constructions were part of the main clause, we would expect BC sentences with a low negation to have exactly the same status as (11c), which contains a negative matrix subject and an embedded sentential negation. This is not what we find. There is a clear difference in status between (11c) and its BC counterpart:

(11)   d. % tolmise   *na* **min** fai **kanis**   to tiri
           dared.3ѕɢ ѕʙᴊᴠ not eat nobody the cheese

Even though (11d) is not perfect, it is much better than (11c). Alexiadou et al. (2010) take this to be evidence that the subject in BC resides in the embedded clause.

Negative concord points to the existence of a higher copy in BC. If such a copy wasn't present, (11d) should be fully acceptable. Further evidence in support of this comes from the observation that in Greek, *nominal secondary predicates and predicative modifiers* like 'alone' agree in gender and number with the c-commanding DP they modify:

(12) Greek

 a. o **Janis** efige **panikovlitos** / *-i
   the John.ɴᴏᴍ left panicking.ᴍs / *-ꜰᴇᴍ

   lit. 'John left in panic.'

 b. o **Janis** irthe **monos tu** / *moni tis
   the John.ɴᴏᴍ came alone-ᴍs / *alone-ꜰᴇᴍ her

   'John came alone.'

In BC constructions, such modifiers can be licensed in the matrix clause, while the DP they modify resides in the embedded clause; see Alexiadou et al. (2010: 103–104, examples (36–38)). Hence, a silent copy must be present in the higher clause.

On the basis of these and similar arguments, Alexiadou et al. (2010) thus conclude that Greek has BC. Unlike Tsez, BC in Greek is optional (FC is also permitted). Crucially, all OC verbs in Greek and Romanian allow BC, providing a stronger argument for BC.

Tsakali et al. (2017) re-evaluate the empirical picture, using extensive questionnaires. They focus on the following configurations with OC/NOC verbs favoring co-reference and NOC verbs that do not favor coreference:

(13) a. V *na* V Subj Obj
   b. V *na* V Obj Subj

Their results suggest the following:

1. OC verbs show obligatory co-reference which can be analyzed as BC.

2. There is no clear contrast between OC and NOC verbs as far as Principle C effects are concerned (contra Alexiadou et al. 2010). A significant number of speakers allow co-reference with NOC verbs.

Note that, along with examples like (5) where the embedded subject is nominative, native speakers were also asked to evaluate examples like (14) below involving BC between an embedded dative/genitive or accusative experiencer and a matrix null (nominative) subject.

(14)   OC verb (verb of knowing)

    a. emathe   siga siga na tis   aresun i operes
       learned.3SG gradually SBJV CL.DAT/GEN like.3PL the opera.NOM.PL
       otan gnorise to Jiani
       when met.3SG the Jiani.ACC
       'She learned gradually to like opera, when she met John.'
       Try/manage verbs (strongly favoring coreference)

    b. prospathi na min tin   stenahori i   ikonomiki krisi
       try.3SG   SBJV NEG CL.ACC feel.sad.3SG the financial   crisis.NOM
       'She tries not to feel sad about the financial crisis.'

    c. katafere   na min tin   apasholi i   ikonomiki krisi
       manage.3SG SBJV NEG CL.ACC worry.3SG the financial   crisis.NOM
       'She managed not to feel anxious about the financial crisis.'
       Future referring verb NOC (not favoring coreference)

    d. apofasise   na min tin   katavali   i   asthenia
       decided.3SG SBJV NEG CL.ACC put.down.3SG the illness.NOM
       'She decided not to become depressed by the illness.'

    e. iposhethike na min tin   stenahori pia   i
       promised.3SG SBJV NEG CL.ACC feel.sad.3SG anymore the
       siberifora   tu jiu   tis
       behavior.NOM the son.GEN CL.POSS
       'She promised not to feel sad about her son's behavior.'

The majority of the speakers these authors asked accept examples of the type in (14), and the rate of ungrammaticality ranges from 1.9–11.1 %.

   3. The comparison between VSO and VOS order in *na*-clauses shows that the preference for the disjoint reading is stronger in VSO orders than in VOS orders, but co-reference is still possible for many speakers, who do not have a significant contrast between VOS and VSO.

Importantly, Tsakali et al. (2017) show that the Greek pattern cannot be analyzed as involving restructuring implemented in terms of remnant movement, as proposed for Spanish by Ordóñez (2009) and Herbeck (2013), and suggested by an anonymous reviewer. Specifically, Ordóñez presents several arguments against a BC analysis for Spanish. First of all, he points out that similar patterns are found in structures that are standardly considered not to involve control. This

is the case, for instance, in causative and perception verb constructions, where the subject may appear overtly in the post-infinitival position:

(15) Ayer   nos hizo leer   Juan el libro.
      yesterday to.us make to.read Juan the book

      'Yesterday Juan made us read the book.'

Second, it is not the case that only main subjects are permitted after the infinitive, as assumed by the backward control analysis; the object of a main verb may also be inserted in this post-infinitival position with object control verbs. This is shown by the orders v DO INF XP and v INF DO XP in (16a–b). Examples (16b) and (16c) show that main object controllers, just like main subject controllers, can be embedded and appear after the infinitival verb:

(16) a. Obligaron a Bush a firmar los acuerdos   de paz.
          obliged.3PL to Bush to sign   the agreements of peace

          'They obliged Bush to sign the peace agreement.'

      b. Obligaron a firmar a Bush los acuerdos   de paz.
          obliged.3PL to sign   to Bush the agreements of peace

          'They obliged Bush to sign the peace agreement.'

      c. ? Obligó   a firmar el Congreso a Bush los acuerdos   de
            obliged.3SG to sign   the Congress to Bush the agreements of
            paz.
            peace

          'The Congress obliged Bush to sign the peace agreement.'

Ordóñez proposes a remnant movement analysis of BC (and restructuring constructions) in the spirit of Hinterhölzl's (2006) and Koopman & Szabolcsi's (2000) analyses of verbal complexes:

(17) a. [$_{VP}$ Juan querer [$_{CP}$ PRO [$_{VP}$ comprar el libro]]]
              Juan to.want   PRO   to.buy   the book
      Step 1: Movement of the verb *to want* above VP:
      b. [$_{TP}$ querer Juan V$_i$ [$_{TP}$ PRO [$_{VP}$ comprar el libro]]]
              to.want Juan   to.buy   the book
      Step 2: Movement of the TP above *to want*:
      c. [[$_{TP}$ PRO [$_{VP}$ comprar el libro]] [$_{TP}$ querer$_i$ [$_{VP}$ Juan V$_i$ ...
                      to.buy   the book   to.want   Juan

Step 3: Scrambling of the object out of TP + movement of the main subject *Juan* to its licensing position above the scrambled object:

d. [Juan$_1$ el libro$_2$ [[$_{TP}$ PRO [$_{VP}$ comprar t_2]] [$_{TP}$ querer$_i$ [$_{VP}$ t_1 ...
 Juan the book to.buy to.want

Step 4: Movement of the VP containing *to buy* above the licensing position of subject and object:

e. [[$_{VP}$ comprar t_2] [Juan el libro [[$_{TP}$ PRO] [$_{TP}$ querer$_i$ [$_{VP}$ t ...
 to.buy Juan the book to.want

Step 5: Movement of TP+*querer* to SpecCP and final Spell-Out:

f. [$_{CP}$ [$_{TP}$ querer$_i$ ... [$_{VP}$ t ...]] [[$_{VP}$ comprar t_i] [Juan el libro [[$_{TP}$ PRO t_i ...

Crucially for Ordóñez (2009), object scrambling (step 3) is a local movement and cannot cross a finite clause boundary. This explains why there are no comparable verbal complexes formed with finite clauses:

(18) a. *? Ayer les hizo$_i$ [que comprasen Juan$_i$ el libro].
 yesterday to.them made that buy.3PL Juan the book

b. Ayer les hizo$_i$ comprar Juan$_i$ el libro.
 yesterday to.them made buy.INF Juan the book

Further evidence for the scrambling analysis in Spanish is provided by the following contrast. In examples involving infinitival *wh*-islands, as discussed by Torrego (1996), BC and FC behave differently. While the upper copy is available, the lower one is ungrammatical. According to Ordóñez, the ungrammaticality of (19a) can be explained, if scrambling out of non-tensed CPs is blocked by filled SpecCPs.

(19) a. Backward control
 *? No sabe si contestar Juan las cartas.
 not know whether to.answer Juan the letters

b. Forward control
 Juan no sabe si contestar Juan las cartas.

Tsakali et al. (2017) show that the Greek facts are very different: specifically, there is no blocking of VSO orders and BC in OC constructions involving a filled SpecCP; cf. (20):

(20) de kseri   pos na apandisi o   Janis   ta gramata
      not know.3SG how SBJV answer   the.NOM John.NOM the letters.ACC
      'John does not know how to answer the letters.'

Moreover, embedding of the main object controller is not possible; i.e. here we have an asymmetry between subjects and objects:

(21) a. anagasan   ton   Bush na ipograpsi ti sinthiki irinis
          obliged.3PL the.ACC Bush SBJV sign.3SG   the peace agreement.ACC
          'They obliged Bush to sign the peace agreement.'
      b. *anagasan   na ipograpsi ton   Bush ti sinthiki irinis
          obliged.3PL SBJV sign.3SG   the.ACC Bush the peace agreement.ACC

Furthermore, in Spanish, no argument may intervene between finite verbs and infinitives with a postverbal subject. This is not the case in Greek, where no locality effect is caused by an IO intervener in the matrix clause:

(22) *? les   prometió a los familiares   [darles el   jurado la
         to.them promised to the family.members to.give the jury   the
         libertad a   los prisioneros]
         liberty   to the prisoners

(23) iposhethikan tis   Marias   na dosun i   dikastes
      promised.3PL the.GEN Maria.GEN SBJV give.3PL the judges.NOM
      amnistia   sto   filakismeno andra   tis
      amnesty.ACC to.the imprisoned husband hers
      'The judges promised Mary to give amnesty to her imprisoned husband.'

As Greek lacks clitic climbing, there is no evidence for restructuring (see Terzi 1992 and others). Moreover, BC is found with all control verbs, not just with a small class (the restructuring class in Spanish).

Finally, Tsakali et al. (2017) show that the obviation of Principle C effects in embedded VSO constructions is also found *with finite clauses*, as shown in (24b). Crucially, there is a robust Principle C effect in embedded *that*-SVO sequences illustrated in (24a), indicating that Greek does have Principle C effects caused by a matrix null subject when the embedded subject precedes the inflected verb.

(24) a. *pro*$_{*j/k}$ emathe   oti o   Petros$_j$ kerdise to lahio
              learned.3SG that the.NOM Peter.NOM won.3SG the lottery.ACC
          'He/she learned that Peter won the lottery.'

b. *pro*$_{j/k}$ emathe   oti kerdise (o   Petros$_j$)   to lahio
     learned.3SG that won.3SG (the.NOM Peter.NOM) the lottery.ACC

(o   Petros$_j$)
(the.NOM Peter.NOM)

'He/she learned that Peter won the lottery.'

We can thus conclude that Greek BC configurations do not involve complex predicate formation. While there is evidence for verb clustering in Spanish, there is no such evidence in Greek. Moreover, in Greek, backward co-reference is even allowed within finite clauses unless the subject is in preverbal position.

Tsakali et al. (2017) show that a backward dependency can productively be established in Greek provided that the embedded DP subject remains *in situ*. They propose that what has been analysed as BC should not be analysed in terms of movement, because on a movement analysis it would be hard to explain the emergence of a Principle C effect when the subject occurs preverbally.[2] For this reason, they propose that Greek BC actually reflects φ-agreement between matrix T, embedded T and the overt S(ubject), which can also take place across embedded indicative CPs and is licit only if the S doesn't intervene between the two T heads, as in (1a), repeated below:

(1)   a.   [Tφ_k [$_{TP/CP}$ *T*φ_k DPφ_k]]
      b.   *[Tφ_k [$_{TP/CP}$ DPφ_k *T*φ_k]]

Tsakali et al. (2017) relate the availability of long-distance agreement chains as in (1a) to the pro-drop status of the language. Their analysis assumes a version of (25): see Rizzi (1982), Alexiadou & Anagnostopoulou (1998), Holmberg (2005), Barbosa (2009).[3] The crucial intuition is that Agr in null subject languages is pronominal and can thus enter long-distance agreement relationships, like pronouns.

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[2]One could attempt to save the movement analysis by appealing to improper movement. Under the hypothesis that SVO orders in Greek involve Clitic Left Dislocation (CLLD; Alexiadou & Anagnostopoulou 1998), one could account for the lack of BC in such configurations by analyzing the preverbal position as an A'-position. Such configurations would thus involve an improper A-A'-A movement chain. However, such an analysis would be strongly undermined by the fact that the subject in SVO orders does have A-properties and that CLLD in general has mixed A/A'-properties akin to medium-distance scrambling (see Miyagawa 2017 for relevant discussion).

[3]This is called Hypothesis A in Holmberg (2005) and Barbosa (2009). Holmberg rejects it while Barbosa argues for a version of it, implemented in terms of Pesetsky & Torrego's (2007) modification of Chomsky's (2001) theory of Agree.

(25)   The set of phi-features in T (Agr) is pronominal in null subject languages (NSLs); Agr is a referential, definite pronoun, albeit a pronoun phonologically expressed as an affix. As such, Agr is also assigned a subject theta-role, by virtue of heading a chain whose foot is in vP, receiving the relevant theta-role.

In order to make (25) compatible with the theory of Agree, Barbosa (2009) proposes that the phi-features of T in consistent null subject languages (NSLs) are valued and can therefore value the phi-features of vP-internal *pro* in pro-drop configurations. She furthermore proposes that they are uninterpretable, in order to account for the Agree relationship they establish with overt or covert subjects which have interpretable features. If she is correct, then we must assume that they are not deleted until they form a chain with the higher agreement in long-distance agreement chains, which means that Greek has phase-suspension in the relevant configurations (see Alexiadou et al. 2014 for phase-suspension in long-distance Agree configurations arising in raising subjunctives); i.e. there is obligatory phase suspension in OC subjunctives and optional phase suspension in NOC subjunctives with BC, and even in indicatives.

Alternatively, we can maintain that the phi-features on T in Greek are pronominal, and this permits them to enter long-distance agreement relationships, even across finite clauses, like pronouns do. Being pronominal, they can either be taken to be interpretable and unvalued (receiving a value either from a null Topic, as argued for in Frascarelli (2007), or by entering a chain with a higher DP, depending on context), or valued, as Barbosa proposes, but also interpretable.[4]

Turning to the Agree relationships established in BSC configurations, (25) holds in the embedded clause of the non-Principle C VSO/VOS cases investigated by Tsakali et al. (2017), as in (26):

(26)   [$_{TP/CP}$ Tφ_k DPφ_k]

A further Agree relationship is established between matrix T and embedded CP; i.e. in the phase-hood version of BSC (see above), C is not an intervener for

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[4]Either way, depending on what the facts in other NSLs turn out to be, we might need to parametrize these hypotheses. Specifically, it is well-known that Romance subjunctives show obviation, and this seems to correlate with the fact that they have infinitives. Thus, obviation in those contexts can be accounted for by appealing to global competition between infinitives and subjunctives. But what has not been investigated so far, to our knowledge, is how finite clauses behave. If they consistently show Principle C effects with embedded VSO and VOS orders, then this would indicate that either the phi-features of T are uninterpretable and thus they disappear after local Agree with the vP-internal subject (as proposed by Barbosa 2009), or that phase-hood cannot be suspended in Romance indicatives.

Agree. Following Rackowski & Richards (2005), Tsakali et al. (2017) assume that PIC/intervention effects are obviated if a higher head first agrees with *the entire phase* and then continues on to agree with an element *inside* the phase; see also Halpert (2016).

(27) $[\, T\varphi_k \, [_{TP/CP} \, T\varphi_k \, DP\varphi_k \,]]$

Matrix T (and the *v*P-internal pro-subject associated with it) agrees with the CP and then with embedded T which agrees with the *v*P-internal subject. Note here that in Zulu, as argued in Halpert (2016), the EPP forces raising of the embedded subject out of the *v*P. DP-raising does not have to take place in Greek/Romanian, as V-movement satisfies the EPP (Alexiadou & Anagnostopoulou 1998), but when the subject occurs pre-verbally a Principle C effect arises. Tsakali et al. (2017) suggest that the embedded subject DP is an intervener blocking Agree between matrix and embedded T; i.e. Agree between heads can happen as long as no DP intervenes between them. When matrix pronominal agreement directly c-commands a DP with which it shares no thematic index, it gives rise to a standard Principle C effect. This effect does not arise in embedded VSO/VOS orders because matrix T forms a chain with embedded T and embedded T shares the same thematic index with the subject DP.[5]

On the basis of this discussion, we can submit the following conclusions: what Alexiadou et al. (2010) called BC in subjunctives actually involves the formation of agreement chains. BC (broadly/roughly understood as backward co-reference) involves agreement chains rather than actual movement because there is no obvious way of accounting for the asymmetry between embedded SVO vs. VSO orders (evidenced in finite clauses due to the option of SVO orders, which are unavailable in subjunctives for independent reasons having to do with the phonological clitic-like status of *na*) with respect to Principle C effects in a DP-movement approach. When the word order in the embedded clause is SVO, we get a clear Principle C violation, as expected.

In this light, let us now see what happens in object control configurations. The question here is the following: if the availability of 'BC' in Greek is related to the availability of agreement chains of the type described above, are such agreement chains possible in object control configurations?

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[5]Note that this analysis is compatible both with analyses taking full DP-subjects to optionally raise to SpecTP in Greek (e.g. Spyropoulos & Revithiadou 2009) and with analyses taking the pre-verbal subject to reside in a CLLD position (Alexiadou & Anagnostopoulou 1998; Barbosa 2009 and others). In the latter approach, we can even sharpen the explanation for the Principle C effect, attributing it to the nature of CLLDed elements as topic shifters (cf. Frascarelli 2007).

4 No object BC in Greek

4.1 Introduction

Similarly to BSC, it has been argued that object control can also be subdivided into forward and backward object control (BOC):

(28) a. Forward object control
          I persuaded Kim$_i$ [△$_i$ to smile]
                      controller controllee
      b. Backward object control
          I persuaded △$_i$ [Kim$_i$ to smile]
                      controllee controller

   BOC is attested in e.g. Malagasy (Potsdam 2006; 2009), Korean (Monahan 2003), and Omani Arabic (Al-Balushi 2008). We illustrate the phenomenon with a Korean example in (29). (29a) shows that Korean object control predicates permit an accusative-nominative alternation. While the accusative is a constituent of the matrix clause, binding a null element in the embedded clause, (29b), the nominative resides in the embedded clause and is coindexed with a null element in the matrix, (29c):

(29) a. Cheolsu-neun Yeonghi-leul/ka   kake-e ka-tolok
          Cheolsu-TOP   Yeonghi-ACC/NOM store-to go-COMP
          seolteukha-eoss-ta
          persuade-PAST-DECL
          'Cheolsu persuaded Yeonghi to go to the store.'
      b. Cheolsu-neun Yeonghi-leul$_i$ [△$_i$ kake-e   ka-tolok]
          Cheolsu-TOP   Yeonghi-ACC   store-to go-COMP
          seolteukha-eoss-ta
          persuade-PAST-DECL
          'Cheolsu persuaded Yeonghi to go to the store.'
      c. Cheolsu-neun △$_i$ [Yeonghi-ka$_i$ kake-e   ka-tolok]
          Cheolsu-TOP   Yeonghi-NOM store-to go-COMP
          seolteukha-eoss-ta
          persuade-PAST-DECL
          'Cheolsu persuaded Yeonghi to go to the store.'

Before we turn to the question of whether BOC can be evidenced in Greek, we should offer a brief description of the predicates that have been analyzed as object control predicates in Greek. This is a controversial issue, as these structures are in principle also amenable to an ECM analysis; it thus has to be shown that the DP is generated in the object position of the matrix predicate. Alexiadou & Anagnostopoulou (1997) addressed this, and we briefly summarize their argumentation here; see also Kotzoglou (2002) and Kotzoglou & Papangeli (2007).

4.2 Object control in Greek

Constructions that could be analyzed as ECM in Greek involve perception and causative verbs (cf. Burzio 1986 for Italian):

(30) a. ida   ton Petro   na   milai   me tin Ilektra
          saw.1SG the Peter.ACC SBJV talk.3SG with the Ilektra

          'I saw Peter talking with Ilektra.'

      b. evala   ton Petro   na   katharisi to domatio tu
          put.1SG the Peter.ACC SBJV clean.3SG the room   his

          'I made Peter clean his room.'

Iatridou (1993) treats cases like (30a) as instances of object control. In fact, Burzio argues against an ECM analysis for (30a–b) and his arguments also hold for Greek (cf. Burzio 1986: 287–290). As Alexiadou & Anagnostopoulou (1997) point out, unlike tensed/infinitival pairs like *I believe that Eric delivered the speech/ I believe Eric to have delivered the speech*, which are closely synonymous, pairs like (31) below are not synonymous:

(31) a. ida   oti o Petros   telioni ti diatrivi   tu
          saw.1SG that the Peter.NOM finishes the dissertation his

          'I saw that Peter is finishing his dissertation.'

      b. ida   ton Petro   na   telioni ti diatrivi   tu
          saw.1SG the Peter.ACC SBJV finishes the dissertation his

          'I saw Peter finishing his dissertation.'

In (31b) the phrase corresponding to *Petros* is the object of direct perception, while this is not true of sentences like (31a). A related point has to do with the non-synonymy of active and passive forms. While S complements maintain rough synonymy under passivization, as with *I believe Eric to have delivered the speech vs. I believe the speech to have been delivered by Eric*, the cases under discussion are not synonymous, as is evident from the semantic anomaly of the verb *ida* in (32b) below:

(32)   a.   ida/akusa   to Petro   na ekfoni   to logo
             saw.1SG/heard.1SG the Peter.ACC SBJV deliver.3SG the speech

             'I saw/heard Peter delivering the speech.'

     b.   # ida/akusa   to logo   na ekfonite   apo ton Petro
             saw.1SG/heard.1SG the speech SBJV be delivered by   the Peter

             'I saw/heard the speech being delivered by Peter.'

Another standard test for distinguishing '_ NP S' from '_ S' complements involves the relative scope of quantifiers. By this test, the structures in question also qualify as non-ECM:[6]

(33)   a.   They expected one customs official to check all passing cars.

         i.   They expected that there would be one customs official who would check all passing cars.

       ii.   They expected that, for each passing car, there would be some customs official or other who would check it.

     b.   ida   enan teloniako   na   elenhi   kathe aftokinito
         saw.1SG one   customs official SBJV control every car

         'I saw a customs official controlling every car.'

         i.   I saw one customs official who checked every passing car.

       ii.   * I saw that for each passing car there was one customs official who would check it.

Under the assumption that quantifier scope is clause-bounded, the difference between (33a) and (33b) follows if (33b) has the two quantifiers in different clauses.

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[6]Alexiadou & Anagnostopoulou (2016) point out, however, that in the context of perception verbs, the subject of the embedded clause is assigned accusative in the matrix clause, but is licensed by the negation in the subordinate clause. This is compatible with an ECM analysis, suggesting that perception verbs behave like quasi-ECM predicates in Kotzoglou & Papangeli's (2007) terminology.

    (i)   Bika   mesa ke me ekpliksi idha   kanenan   na min dulevi   monos
        entered.1SG in   and with surprise saw.1SG nobody.ACC SBJV NEG work.3SG alone

        tu.   Oli ixan xoristi   se   omades.
        his.NOM all   had   separated into teams

        'I entered and to my surprise I saw nobody working on his own. They had all separated into teams.'

A further argument against the ECM analysis comes from Clitic Left Dislocation (CLLD). CLLD of CP clauses in Greek involves a clitic which is third person singular neuter:

(34)   a. oti irthe o Petros   den to   perimena
             that came the Peter.NOM NEG CL.ACC expected.1SG

             'That Peter came, I didn't expect it.'

      b. na erthi   o Petros   den to   vlepo
             SBJV come.3SG the Peter.NOM NEG CL.ACC see.1SG

             Lit. 'I do not see it that Peter will come.'

If perception verbs took an S complement, then we would expect the same clitic to appear in CLLD. However, this is not what we find:

(35)   a. [ton logo]ᵢ na ekfonite   den tonᵢ akusa
             the speech SBJV be.delivered NEG him heard.1SG

              'The speech being delivered, I did not hear it.'

      b. * [ton logo   na ekfonite]ᵢ den toᵢ akusa
              the speech SBJV be.delivered NEG it heard.1SG

      c. [ton Petro]ᵢ   na tiganizi psaria den tonᵢ ida
             the Peter-ACC SBJV fry   fish   NEG him saw.1SG

              'Peter frying fish, I did not see him.'

      d. * [ton Petro na   tiganizi psaria]ᵢ den toᵢ ida
              the Peter SBJV fry   fish   NEG it saw.1SG

These examples are grammatical only with a resumptive clitic, which agrees in features with the DP, not with the whole clause.

On the basis of these examples, then, we can conclude that perception verbs are object control predicates in Greek (but see footnote 6 for a complication). Other object control predicates include *pitho* 'persuade', *diatazo* 'order', *parakalo* 'beg', and *voitho*, 'help', which all behave similarly to perception verbs; see (36), which tests CLLD, and Kotzoglou (2002) for discussion:

(36) * [ton Jani na aposiri   ti minisi]ᵢ   toᵢ episa
        the John SBJV withdraw the prosecution it   persuaded.1SG

Before we proceed to the behavior of these predicates in terms of BC, we note that Kotzoglou & Papangeli (2007) discuss so-called quasi-ECM predicates such as *perimeno* 'expect' and *thelo* 'want'. Applying several of the tests for object

control, as in (37) (their 27b), involving CP doubling, they conclude that these predicates also involve a matrix DP; i.e. they can be subsumed as a case of object control.

(37)   * to$_i$ perimena   [ton Jani   na   aghapisi ti   Maria] $_i$
       it   expected.1SG the   John.**ACC** SBJV love.3SG the Maria.ACC
       'I expected John to love Maria.'

The authors do, however, notice some important differences between quasi-ECM verbs and object control verbs. First, as they state (Kotzoglou & Papangeli 2007: 129), "there is a crucial difference in the thematic information that is realized in the Greek examples. Object control verbs cannot select a clause as their single argument, while this was shown to be possible in the quasi-ECM examples." Moreover, object control verbs "always realize the subject matter role as a clause. They thus lack the PP alternate that is attested with verbs of the 'quasi-ECM' type." A second difference involves *wh*-extraction, which is banned in Greek 'quasi-ECM' domains, but is licit out of the object control clause; see (38) (their 42):

(38)   a. ?? pjon   itheles   ton prothipurgho   na   entiposiasi?
          who.ACC wanted.2SG the prime.minister.ACC SBJV impress.3SG
          'Who did you want the prime minister to impress?'
       b.   pjon   epises   ton prothipurgho   na   entiposiasi?
          who.ACC persuaded.2SG the prime.minister.ACC SBJV impress.3SG
          'Who did you persuade the prime minister to impress?'

This, in combination with the observation made in Kotzoglou & Papangeli (2007) that the accusative object of quasi-ECM verbs licenses nominative secondary predicates in the embedded clause, as in (39), leads us to suggest that quasi-ECM configurations actually involve movement of the embedded DP to the CP level, where it is assigned accusative by the matrix predicate. This is an instance of an edge-effect in Baker's (2015) terminology:

(39)   perimena   to Jani   na   ine arostos/*arosto
       expected.1SG the John.ACC SBJV be sick.NOM/*.ACC
       'I expected John to be sick.'

In (39), the DP is first assigned nominative in the lower clause, and then accusative, after movement, at the CP level. This means that accusative, which we

treat following Marantz (1991) and Baker (2015) as dependent case, can be assigned on top of a case assigned lower, inside the embedded clause. As Baker notes, there is cross-linguistic variation as to whether multiple realization is possible.

Note that from the perspective of the 'control as movement' theory, the derivation of (39) is similar, if not identical, to that of control predicates. In both cases, the DP raises from the embedded clause to the matrix clause, where it is assigned dependent accusative. The difference between the two might presumably be related to the fact that in (39) the DP raises to SpecCP, where it is frozen, while in the object control cases, it raises higher, to the matrix *v*P, in order to be receive a thematic role. However, on the basis of our argumentation in §3 regarding Tsakali et al.'s (2017) results, it is crucial that there is movement in so-called quasi-ECM environments, but not in control configurations.

4.3 Greek lacks BOC

Interestingly, none of the object control verbs in Greek allows BOC. The movement analysis of control would predict that the lower copy is spelled out as nominative; i.e. that it bears the case of the embedded clause. However, the examples in (40b) and (ex:alexiadou:48b–c) are all ungrammatical:

(40) a. i   Maria epise   to Jani   na   hamogelasi
          the Mary persuaded the John.ACC SBJV smile.3SG

          'Mary persuaded John to smile.'

      b. *i   Maria (ton)   epise   na   homogelasi o   Janis
          the Mary (CL.ACC) persuaded SBJV smile.3SG   the John.NOM

(41) a. i   Maria   voithise to Jani na   simazepsi to domatio tu
          the Mary.NOM helped   the John SBJV tidy.up.3SG the room   his

          'Mary helped John to tidy up his room.'

      b. i   Maria   voithise na   simazepsi o   Janis   to domatio
          the Mary.NOM helped   SBJV tidy.up.3SG the John.NOM the room
          tu
          his

          [*good but not on the reading where she helped John*]

      c. *I   Maria   (ton)   voithise na   simazepsi o   Janis   to
          the Mary.NOM (CL.ACC) helped   SBJV tidy.up.3SG the John.NOM the
          domatio tu
          room   his

On the backward control analysis, this asymmetry is puzzling and unexpected. If, however, control does not involve movement, as Tsakali et al. (2017) argue, then the observed asymmetry boils down to configurations that enable co-reference; i.e. the formation of long-distance agreement chains of the type we described in §3.

For Greek, the above behavior seems to suggest that the distribution of BC patterns is related to the presence of *pro*. Greek has subject *pro* and allows BSC. By contrast, Greek lacks object *pro* (Giannakidou & Merchant 1997) and disallows BOC. While this would be in agreement with our conclusions in §3, Potsdam (2006; 2009) argues that this does not hold across languages, as Malagasy lacks object *pro* but allows BOC. One of the arguments Potsdam brings against the *pro* analysis in Malagasy involves variable binding. As he points out, the *pro* analysis would predict that a bound variable interpretation for the controller-controllee relation should be impossible, as there is no c-command. However, the example in (42), involving a distributed universal quantifier, shows that variable binding is possible in backward control. Thus, it seems that the controller and controllee must be in a c-command relationship to obtain the right configuration for binding.

(42) boky inona avy no   nanontania- nao hovidian' ny mpianatra tsirairay?
      book what each FOC ask.CT   you buy.TT   the student   each

      'For each *x*, *x* a student, which book did you ask *x* to buy?' (Potsdam 2006: ex. (17a))

We can thus maintain that Malagasy has BOC control, and that the availability of object *pro* does not correlate with the availability of BOC in true BC-as-movement languages. But, crucially, Greek was argued in §3 not to be such a language.

The only cases of BOC that seem possible in Greek involve a Gen/Dat or Acc object realized as a clitic and a Gen/Dat or Acc experiencer in the embedded clause, a pattern that seems similar to that of resumption; see Table 1. Note that (40b–41c) remain ungrammatical in spite of the presence of a clitic in the matrix clause:

(43) a. o Janis   **tu**   epevale / ton   katafere na **tu**   aresi
         the John.NOM CL.GEN imposed / CL.ACC managed SBJV CL.GEN like
         tu Kosta   i opera.
         the Kostas.GEN the opera

         'John imposed on Kostas to like the opera/convinced Kostas to like the opera.'

b. o Janis **tu** epevale / ton katafere na **ton** efxaristi
the John.NOM CL.GEN imposed / CL.ACC managed SBJV CL.ACC please
ton Kosta i opera.
the Kostas.GEN the opera

'John imposed on Kostas to like the opera/convinced Kostas to like the opera.'

Let us consider now the configuration for OC in comparison to our analysis of BSC: in the case of forward control, an Agree relationship must be established between matrix Voice and matrix DP and subsequently the phi-features of T in the embedded CP.

(44) $[_{CP} [_{VoiceP} [DP_{\varphi k} [_{TP/CP} T\varphi_k]]]]$

If the phi-features of embedded T are unvalued, we can follow Grano & Lasnik (2016), building on Kratzer (2009), and Landau (2015), who propose two variants for analyzing such configurations, (45a–b):

(45) a. i. An unvalued pronoun can be valued via feature transmission.
      ii. Transmission of phi-features piggybacks on predication.
      iii. A complement clause can be turned into a predicate via Fin.
      iv. Transmission proceeds from antecedent to Fin and from Fin to [Spec,FinP].

   b. i. An unvalued pronoun can be valued via feature transmission.
      ii. Transmission of phi-features piggybacks on binding.
      iii. Binding is mediated by verbal functional heads.
      iv. C and *v* intervene for each other in the way they transmit features.

On the latter approach, a matrix binder transmits features onto embedded C, and embedded C binds and values an unvalued pronoun in its c-command domain.

In forward object control configurations, we usually have a genitive or an accusative in the matrix clause that controls the nominative subject of the embedded verb. As we see in (46), the DP *John* bears accusative, assigned by the matrix predicate. The presence of a nominative modifier in the embedded clause suggests that it has been assigned nominative in that context. Thus, it bears two cases, but only one is realized.

(46) vlepo to Jani   na   pezi   basket monos tu.
     see   the John.ACC SBJV play.3SG basket alone.NOM
     'I see John playing basketball alone.'

This is a so-called multiple-case-marked A-chain similar to the kind discussed for Niuean in Béjar & Massam (1999: 67).

For backward object control, what we would need first, similarly to what we outlined for the BSC cases, is for the Agree relation to hold within the embedded clause:

(47) $[_{\text{TP/CP}} \ T\varphi_\text{k} \ \text{DP}\varphi_\text{k}]$

While in the case of subject co-reference the Agree chain ultimately holds between two T heads, the matrix and the embedded one, in the case of object control the embedded T head must enter Agree with the matrix Voice head, and this configuration seems generally illegitimate (cf. Kayne 1989). We believe that part of the reason for this is the different requirements that T and Voice impose. T has been argued to have pronominal phi-features while Voice doesn't: Greek is not a rich object agreement, object-drop language, which can be taken to mean that the phi-features of embedded T are not allowed to enter long-distance agreement with the phi-features of the matrix Voice.

But we have seen that this is exceptionally possible if the embedded clause has a dative or accusative clitic doubling the experiencer and the matrix Voice hosts a dative or accusative clitic; i.e. in cases of 'resumption' crucially involving an experiencer in the downstairs clause. This leads us to formulate the hypothesis in (48) as a condition for BC:[7]

(48)   Backward Agree applies to heads of the same type.

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[7]An anonymous reviewer suggests two alternative hypotheses to us, (i) and (ii).

  (i)   In a chain with multiple case positions, realize the copy with the more marked case (ACC/GEN > NOM).

  (ii) In a chain with multiple case positions, realize the higher copy. If both positions are assigned the same case, the lower copy can be realized.

The second hypothesis would capture the fact that BSC is possible when the lower clause contains an experiencer and the higher clause a null *pro* bearing nominative, as was seen in the examples in (15), but it would have to be reformulated in terms of agreement chains if control does not involve movement, as we suggest in §3. (i) can be reformulated as suggesting that only a dependent case in the sense of Marantz (1991) and Baker (2015) must be realized (see Anagnostopoulou & Sevdali 2017 for arguments that Greek GEN is a dependent case).

In the BOC cases at hand, the relationship is between a clitic in the embedded clause and a clitic in the matrix clause. Note that when the downstairs experiencer surfaces as a nominative DP, backward co-reference seems to us to be degraded:[8]

(49) # o Janis   **tu**   epevale / ton   katafere na **efxaristiete o**
      the John.NOM CL.GEN imposed / CL.ACC managed SBJV please.NACT the
      Kostas   me tin opera.
      Kostas.NOM with the opera

      'John imposed on Kostas to like the opera/convinced Kostas to like the opera.'

Moreover, note that if the clitic-doubled argument in the embedded clause is not an experiencer, backward coreference is not possible (this is indicated by # in the passive (50a), featuring a clitic-doubled goal, which is well-formed in the non-coreference reading, and by ?? in (50b), featuring an affected argument combined with an unaccusative, which seems to us to admit the coreference reading but to be degraded compared to the experiencer cases mentioned above):

(50) a. # o Janis   **tu**   epevale / ton   katafere na **tu**
         the John.NOM CL.GEN imposed / CL.ACC managed SBJV CL.GEN
         dothi   **tu Kosta**   to danio.
         give.NACT the Kostas.GEN the loan

         'John imposed on him for a loan to be given to Kostas.'

      b. ?? o Janis   **tu**   epevale / ton   katafere na min **tu**
         the John.NOM CL.GEN imposed / CL.ACC managed SBJV NEG CL.GEN
         pesi **tu Kosta**   to vazo.
         fall the Kostas.GEN the vase

         'John imposed on Kostas not to drop the vase.'

This seems to suggest that backward coreference of this type is not only subject to the condition in (48), but requires, in addition, that the embedded clitic-doubled argument encode point of view. Perhaps this is so because only experiencers qualify as subjects at some level of representation, which means that they relate to T (Anagnostopoulou 1999 for Greek; Landau 2010).

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[8]Because these facts have not been investigated before, we are relying on our own intuitions. They need to be checked with a large number of speakers via extensive questionnaires, just as Tsakali et al. (2017) did with the BSC constructions. The same applies to the data discussed immediately below.

5 Conclusion

In this paper, we have discussed an asymmetry in the distribution of backward control in Greek. While the language has been argued to have BSC, it lacks BOC. As we pointed out, Tsakali et al. (2017) have recently argued that BSC in Greek is a side effect of the availability of an agreement chain between a null main subject and an overt embedded subject in all types of subjunctives (*na*-clauses), and to a certain extent in indicatives (*that*-clauses). If this is the correct analysis for BSC, the question still remains whether Greek has BOC. We showed in this paper that BOC configurations are severely limited. We related this limitation to the nature of Backward Agree, which seems to require heads of the same type. In BOC configurations, the phi-features of embedded T are not allowed to enter long-distance agreement with the phi-features of the matrix Voice. Backward co-reference is only possible in case of resumption with a dative/genitive clitic in the matrix clause and a clitic-doubled experiencer in the embedded clause, and crucially depends on the experiencer status of the embedded argument.

Acknowledgements

References

Agouraki, Yoryia. 1991. A modern Greek complementizer and its significance for Universal Grammar. *UCL Working Papers in Linguistics* 3. 1–24.

Alexiadou, Artemis. 1999. On the properties of some Greek word order patterns. In Artemis Alexiadou, Geoffrey Horrocks & Melita Stavrou (eds.), *Studies in Greek syntax*, 45–65. Dordrecht: Kluwer.

Alexiadou, Artemis. 2000. Some remarks on word order and information structure in Romance and Greek. *ZAS Papers in Linguistics* 20. 119–136.

Alexiadou, Artemis & Elena Anagnostopoulou. 1997. Notes on ECM, control and raising. *ZAS Papers in Linguistics* 8. 17–27.

Alexiadou, Artemis & Elena Anagnostopoulou. 1998. Parametrizing Agr: Word order, V-movement and EPP-checking. *Natural Language & Linguistic Theory* 16. 491–539.

Alexiadou, Artemis & Elena Anagnostopoulou. 2016. Rethinking the nature of nominative case. (Berlin: Humboldt-Universität zu Berlin and Rethymnon: University of Crete.)

Alexiadou, Artemis, Elena Anagnostopoulou, Gianina Iordachioaia & Mihaela Marchis Moreno. 2010. No objection to backward control. In Norbert Hornstein & Maria Polinsky (eds.), *Movement theory of control*, 89–118. Amsterdam: John Benjamins.

Alexiadou, Artemis, Elena Anagnostopoulou & Susi Wurmbrand. 2014. Movement vs. long-distance agree in raising: disappearing phases and feature valuation. *Proceedings of NELS* 43. 1–12.

Anagnostopoulou, Elena. 1999. On experiencers. In Artemis Alexiadou, Geoffrey Horrocks & Melita Stavrou (eds.), *Studies in Greek syntax*, 67–93. Dordrecht: Kluwer.

Anagnostopoulou, Elena & Christina Sevdali. 2017. Two modes of dative and genitive case assignment: Evidence from two stages of Greek. (Rethymnon: University of Crete and Jordanstown: University of Ulster.)

Baker, Mark. 2015. *Case: Its principles and its parameters*. Cambridge: Cambridge University Press.

Al-Balushi, Rashid. 2008. Control in Omani Arabic. (Toronto: University of Toronto.)

Barbosa, Pilar. 2009. Two kinds of subject pro. *Studia Linguistica* 63. 2–58.

Béjar, Susana & Diane Massam. 1999. Multiple case checking. *Syntax* 2. 66–79.

Burzio, Luigi. 1986. *Italian syntax: A government-binding approach*. Dordrecht: Reidel.

Chomsky, Noam. 2001. Beyond explanatory adequacy. In Adriana Belletti (ed.), *Structures and beyond*, 104–131. Oxford: Oxford University Press.

Frascarelli, Mara. 2007. Subjects, topics and the interpretation of referential pro. *Natural Language & Linguistic Theory* 25. 691–734.

Fukuda, Shinichiro. 2008. Backward control. *Language and Linguistics Compass* 2. 168–195.

Giannakidou, Anastasia & Jason Merchant. 1997. On the interpretation of null indefinite objects in Greek. *Studies in Greek Linguistics* 17. 290–303.

Grano, Thomas & Howard Lasnik. 2016. How to neutralize a finite clause boundary: Phase theory and the grammar of bound pronouns. (Bloomington, IN: Indiana University and College Park, MD: University of Maryland.)

Halpert, Claire. 2016. Raising parameters. *Proceedings of WCCFL* 33. 186–195.

Herbeck, Peter. 2013. On backward control and clitic climbing: On the deficiency of non-finite domains in Spanish and Catalan. *Proceedings of ConSOLE XXI* 2013. 123–145.

Hinterhölzl, Roland. 2006. *Scrambling, remnant movement, and restructuring in West Germanic.* Oxford: Oxford University Press.

Holmberg, Anders. 2005. Is there a little pro? Evidence from Finnish. *Linguistic Inquiry* 36. 533–564.

Hornstein, Norbert. 1999. Movement and control. *Linguistic Inquiry* 30. 69–96.

Iatridou, Sabine. 1993. On nominative case assignment and a few related things. *MIT Working Papers in Linguistics* 19. 175–198.

Kayne, Richard S. 1989. Facets of Romance past participle agreement. In Paola Benincà (ed.), *Dialect variation and the theory of grammar*, 85–103. Dordrecht: Foris.

Koopman, Hilda & Anna Szabolcsi. 2000. *Verbal complexes.* Cambridge, MA: MIT Press.

Kotzoglou, George. 2002. Greek 'ECM' and how to control it. *Reading Working Papers in Linguistics* 6. 39–56.

Kotzoglou, George & Dimitra Papangeli. 2007. Not really ECM, not exactly control: The 'quasi-ECM' construction in Greek. In William D. Davies & Stanley Dubinsky (eds.), *New horizons in the analysis of control and raising*, 111–132. Dordrecht: Springer.

Kratzer, Angelika. 2009. Making a pronoun: Fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40. 187–237.

Landau, Idan. 1999. *Elements of control.* Cambridge, MA: MIT. (Doctoral dissertation).

Landau, Idan. 2004. The scale of finiteness and the calculus of control. *Natural Language & Linguistic Theory* 22. 811–877.

Landau, Idan. 2007. Movement-resistant aspects of control. In William D. Davies & Stanley Dubinsky (eds.), *New horizons in the analysis of control and raising*, 293–325. Dordrecht: Springer.

Landau, Idan. 2010. *The locative syntax of experiencers.* Cambridge, MA: MIT Press.

Landau, Idan. 2015. *A two-tiered theory of control.* Cambridge, MA: MIT Press.

Marantz, Alec. 1991. Case and licensing. (Paper presented at the 8th Eastern States Conference on Linguistics, University of Maryland, Baltimore.)

Miyagawa, Shigeru. 2017. *Agreement beyond phi.* Cambridge, MA: MIT Press.

Monahan, Philip J. 2003. Backward object control in Korean. *Proceedings of WCCFL* 22. 356–369.

Ordóñez, Francisco. 2009. Verbal complex formation and overt subjects in infinitivals in Spanish. (Stony Brook, NY: Stony Brook University.)

Pesetsky, David & Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In Simin Karimi, Vida Samiian & Wendy K. Wilkins (eds.), *Phrasal and clausal architecture: Syntactic derivation and interpretation*, 262–294. Amsterdam: John Benjamins.

Philippaki-Warburton, Irene & Jannis Veloudis. 1984. The subjunctive in complement clauses. *Studies in Greek Linguistics* 5. 87–104.

Polinsky, Maria & Eric Potsdam. 2006. Expanding the scope of control and raising. *Syntax* 9. 171–192.

Potsdam, Eric. 2006. Backward object control in Malagasy: Against an empty category analysis. *Proceedings of WCCFL* 25. 328–336.

Potsdam, Eric. 2009. Malagasy backward object control. *Language* 85. 754–784.

Rackowski, Andrea & Norvin Richards. 2005. Phase edge and extraction: A Tagalog case study. *Linguistic Inquiry* 36. 565–599.

Rizzi, Luigi. 1982. *Issues in Italian syntax*. Dordrecht: Foris.

Roussou, Anna. 2009. In the mood for control. *Lingua* 119. 1811–1836.

Spyropoulos, Vassilios. 2007. Finiteness and control in Greek. In William D. Davies & Stanley Dubinsky (eds.), *New horizons in the analysis of control and raising*, 159–183. Dordrecht: Springer.

Spyropoulos, Vassilios & Anthi Revithiadou. 2009. Subject chains in Greek and PF processing. In Claire Halpert, Jeremy Hartman & David Hill (eds.), *Proceedings of the MIT Workshop in Greek Syntax and Semantics*, 293–309. Cambridge, MA: MITWPL.

Terzi, Arhonto. 1992. *PRO in finite clauses: a study of the inflectional heads of the Balkan languages*. New York: CUNY. (Doctoral dissertation).

Torrego, Esther. 1996. On quantifier float in control clauses. *Linguistic Inquiry* 27. 111–126.

Tsakali, Vina, Elena Anagnostopoulou & Artemis Alexiadou. 2017. A new pattern of CP transparency: Implications for the analysis of Backward Control. (Paper presented at GLOW 40, Leiden.)

Tsoulas, George. 1993. Remarks on the structure and the interpretation of na-clauses. *Studies in Greek Linguistics* 14. 191–206.

Varlokosta, Spiridoula. 1994. *Issues on modern Greek sentential complementation*. College Park, MD: University of Maryland. (Doctoral dissertation).