

The subject condition as a PF effect: evidence from Greek

George Kotzoglou

University of Reading
kotzoglou@gmail.com

Abstract

This article examines the lack of Subject Condition violations in null subject languages (and, most prominently, Greek). It is argued that the CED cannot provide an adequate account of Subject Condition effects and their lack in the aforementioned languages, as it faces both theoretical and empirical problems. The *multiple spell-out* account of Uriagereka (1999) and Nunes & Uriagereka (2000), as well as accounts based on Wexler & Culicover's (1980) *freezing principle*, are also shown to face a number of problems. It is proposed that Subject Condition effects are due to a prohibition on multiple phase-internal movement. Modifying Nunes's (1999, 2004) proposal, I argue for a *Restriction on Copy Reduction* principle, which bans the PF-silencing of more than one movement copies of a single element within the lifespan of a syntactic phase. It is shown that this principle follows as soon as we assume that the notion 'chain' has no place in a derivational model. It is shown that the Restriction on Copy Reduction accounts for the Subject Condition and its lack thereof in null subject languages. It also captures a number of effects subsumed under the freezing principle.

Keywords: Subject Condition, Condition on Extraction Domains (CED), phase, Restriction on Copy Reduction (RCR), Phonetic Form (PF)

1. Introduction

This article examines the ungrammaticality of extraction from DP/CP-subjects, which is a well-known effect in English and other non-null subject languages (where corresponding extractions from objects are permitted).

- (1a) Who did you see [a picture of ____]?
- (1b) *Who did [a picture of ____] annoy our neighbors?
- (2a) What did John prefer [believing ____]?
- (2b) *What did you think that [believing ____] would affect your mental health?

It is observed that similar extractions are licit in a number of other languages (Greek, for example). Therefore, the question that arises is: Why is extraction from DP-subjects permitted in Greek (3)? Or, more generally, why is extraction from (even clausal) subjects allowed in several null subject languages ((4) from Stepanov 2001)?

- (3) Tinos ipes oti [i ipomoni ____ se epise]?
- Whose said._{2S} that the patience ____ you._{ACC} persuaded._{3S}
- 'Whose patience did you say persuaded you?'
- (4a) Melyik színésnök_i gonfolja János hogy _{t_i} a fényképe meglett?
- Which actress's thinks Janos that the picture-her turned up?
- 'Which actress does John think that a picture of ____ turned up?' (Hungarian)

- (4b) [Op [Mary-ga t yonda no]-ga akirakana yorimo John-wa takusan-no hon-o yonda
Op Mary._{NOM} read that._{NOM} is-obvious than John-TOP many._{GEN} book._{ACC} read
'John read more books than [that Mary read ____] is obvious'
i.e. *John reads more books that it is obvious that Mary read* (Japanese)

This article explores questions such as these and tries to identify the role of the null subject parameter in amnestying Subject Condition violations.

2. CED effects

The ungrammaticality of constructions such as (1b-2b) led to the following generalization:

- (5) **Subject condition:** No element can be extracted from a subject phrase

According to the standard GB account, the Subject Condition reduces to the fact that the containing DP is not (properly) governed (Huang 1982):

- (6) **Condition on Extraction Domains (CED):**

A phrase A can be extracted from a domain B only if B is properly governed

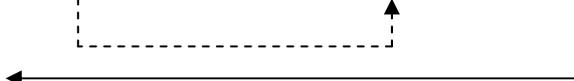
According to (6), subjects are islands in non-null subject languages (since subjects in these languages surface on [Spec, TP] and the verb stays in the ν P/VP). On the contrary, in null subject languages, the fact that subjects may remain ν P-internal (i.e. in a structural position lower than the –raised to T– verb) allows them to be properly governed by the verb and –hence– to permit extraction (cf. Rizzi 1982; Giorgi & Longobardi 1991; Lasnik & Saito 1992):

A first problematic aspect of CED-based accounts is that fact that the mechanism of government has been abandoned in the Minimalist Program, since it does not follow from interface considerations (and it has been fruitfully replaced by other mechanisms in control theory, case theory, binding theory etc.)

Secondly, (6) predicts that extraction from Greek preverbal subjects should be banned, as such subjects are clitic left dislocated elements (cf. Philippaki-Warbuton 1987; Tsimpli 1990; Alexiadou & Anagnostopoulou 1998; Spyropoulos 1999; Spyropoulos & Philippaki-Warbuton 2001, among others), and they are –therefore– not properly governed. However, such subjects allow extraction, as shown in (7b), a fact that needs an explanation.

- (7a) I epimoni tu Vrasidha entiposiase tus krites.
the insistence the Vrasidhas._{GEN} surprised the judges._{ACC}
'Vrasidas' insistence surprised the judges.'
- (7b) Tinos ipes oti [i epimoni ____] ekseplikse tus krites?
Whose said._{2S} that the insistence surprised the judges
'Whose insistence did you say surprised the judges?'

An answer to this question has been provided by Spyropoulos (1999) and Spyropoulos & Philippaki-Warbuton (2001), who propose that the subject gets reconstructed in the position of *pro* in the ν P at LF. So, the S-structure (8a) has the corresponding LF (8b). The subject DP is lowered in the ν P-internal position, wherefrom the extraction of *tinós* is allowed:

- (8a) [_{TopP} [_{DP} i epimoni tinos]_i [_{TP} ... ekseplikse [_{vP} *pro*_i tus krites]]]
 (8b) [_{TopP} [_{TP} ... ekseplikse [_{vP} [_{DP} i epimoni tinos]_i tus krites]]]


This approach explains the relationship between the null subject parameter and the lack of Subject Condition violations (since only NSLs permit reconstruction at the position of *pro*), but it does not explain why the postverbal position of the subject at LF sanctions extraction from it (in fact, this approach inherits the theoretical problems of the CED). What is more, reconstruction is not an unexplained phenomenon. It amounts to semantic interpretation of a lower movement copy according to Chomsky (1993) and Nunes (1999, 2004). There is no such copy in the chain {preverbal subject, *pro*}, which is not a movement chain but a coindexation chain. Finally, Alexiadou & Anagnostopoulou (1998) have shown that preverbal subjects take obligatorily wide scope over negation (9a) (which means that they c-command the Neg particle at LF – postverbal subjects allow for inverse scope as well (9b)):

- (9a) Poli mathites dhen etroghan feta.
 Many pupils NEG ate feta *many*>*neg*, **neg*>*many*
 (9b) Dhen etroghan poli mathites feta.
 NEG ate many pupils feta *many*>*neg*, *neg*>*many*

After possessor sub-extraction, though, the DP subject retains its wide scope:

- (10) tinos_i ipes oti [poli mathites *t*_i] dhen etroghan feta?
 whose said_{2S} that many pupils NEG ate feta *many*>*neg*, **neg*>*many*

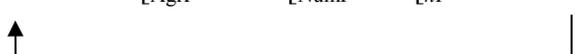
So, at LF the subject still c-commands Neg and, therefore, cannot have been reconstructed in the *vP*. The reconstruction proposal cannot be sustained.

3. DP-structure and DP-internal movement

Before proceeding on the examination of some minimalist accounts, let us take a closer look at the internal structure of the Greek DP. I assume that DP structure resembles clause structure (Abney 1987; Longobardi 2001; Szabolcsi 2001). I adopt here Alexiadou's (2004) structure (although the exact structure of the DP is not crucial for my proposal).

- (11) [_{DP} ... [_{AgrP} ... [_{NumP} ... [_{nP} ...]]]]

I also adopt Svenonius's (2004) proposal that the DP is a phase (in Chomsky's (2000) sense). Therefore, extraction from DP can take place only if the extracted material can first pass through the edge of the DP, due to the Phase Impenetrability Condition (PIC). Internal movement of DP_{GEN} to [Spec, DP] has been widely manifested in the literature (Horrocks & Stavrou 1987; Alexiadou 2004):

- (12a) [_{DP} to [_{AgrP} vivlio [_{NumP} ... [_{nP} tu Petru/tinos]]]]
 (12b) [_{DP} tu Petru/tinos to [_{AgrP} vivlio [_{NumP} ... [_{nP} ~~tu Petru/tinos~~]]]]


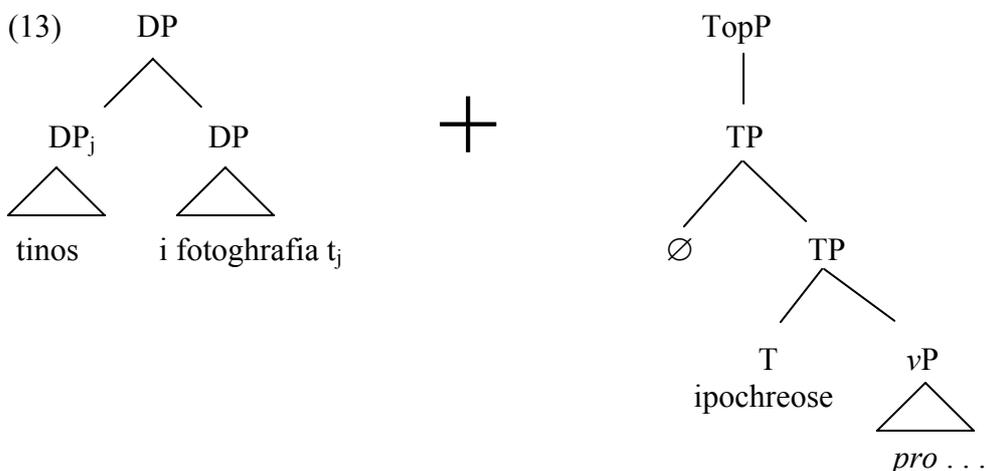
Therefore, only elements that can raise to [Spec, DP] can escape DPs. Now if we assume that only subject, object and possessor arguments can escape the DP (Cinque 1980; Giorgi & Longobardi 1991), then a number of illicit extractions can find a principled explanation that has nothing to do with the subject-object asymmetry itself.

In what follows, I will examine whether further movement (extraction) of phrases that can perform the first step of moving to [Spec, DP] (according to Gavruseva 2000) is possible or not. I will, thus, focus on cases where the *same* phrase can be extracted from a DP-object but not a DP-subject. The phase-based analysis of the extraction from DPs will become relevant in section 6.

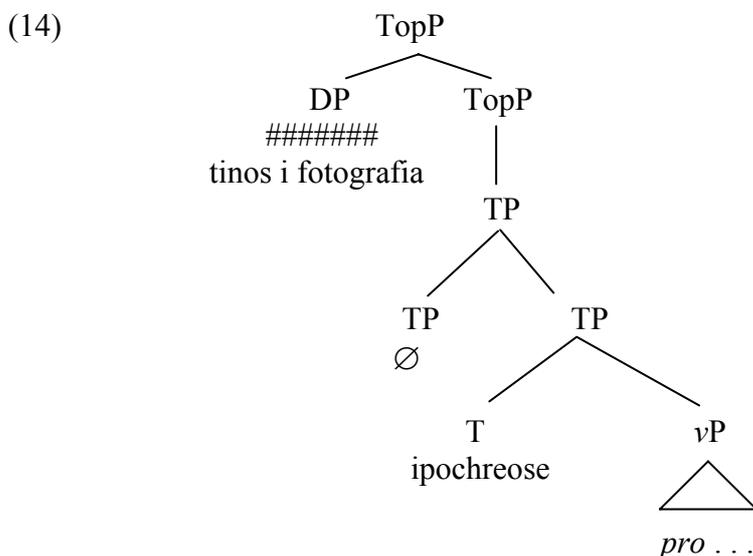
4. A multiple spell-out account

Uriagereka (1999) and Nunes & Uriagereka (2000) argue that extraction from non-complements is banned, since each complex left branch should be spelled out before it is merged with the main command unit.

Therefore, merger of the two constituents in (13)



can be achieved only if the first of the two gets spelled out and –therefore– enters the base phrase marker without internal hierarchical structure. As a consequence, the computational system cannot ‘see’ into the spelled-out DP:



As a consequence, no movement of an internal part of the spelled-out DP can take place. In effect, the multiple spell-out hypothesis treats subjects and adjuncts on a par, and requires that both left branches and adjoined elements enter the main phrase marker/command unit already spelled out. This gives an account of the Subject Condition and of the Adjunct Condition at the same time.

However, Stepanov (2001) notes that many languages allow extraction from left branches/subjects, while they ban extraction from adjuncts.¹ The approach of Uriagereka (1999) and Nunes & Uriagereka (2000) cannot explain how a language may violate the Subject Condition but obey the Adjunct Condition (the same rationale extends to all analyses which provide a uniform account for the Subject & Adjunct Conditions, see Toyoshima (1997); Johnson (2002); Koot & Mathieu (2003)).

In fact, the ‘multiple spell-out’-based proposal cannot explain how it is even possible to have extraction from subjects. Given that complex subjects in all languages need to enter the main phrase marker as spelled out constituents, extraction from preverbal subjects in null subject languages, as well as from postverbal subjects in all languages, should be banned. But this is not what the empirical data suggest.

5. A promising approach

Takahashi (1994) and Stepanov (2001) note that the difference between null subject languages and non-null subject languages is that in the former preverbal subjects form one-membered chains (15), while in the latter they form chains that consist of more than one links (16):

- (15) [_{TopP} subject . . . [TP . . . [_{vP} *pro*]]]
 (16) [_{TP} subject . . . [_{vP} subject]]


The difference amounts to the fact that subjects in null subject languages do not raise to [Spec, TP] but are base-generated in a peripheral position (Solà 1992; Barbosa 1995; Alexiadou & Anagnostopoulou 1998).

Now, Takahashi (1994) supposes that extraction from one link of a (non-trivial) chain is banned by chain uniformity, given his proposal that the *wh*-phrase adjoins to the containing DP upon extraction:

- (17) *Which actor were [~~which actor~~ [pictures of ~~which actor~~]] [_{vP} sold [~~pictures of which actor~~]]

This approach explains why extraction from non-moved subject is permitted in English:

- (18) ~~Which actor~~ were there [~~which actor~~ [pictures of which actor]] shown on TV?

Elements remaining in [Spec, vP] do not move and –as a consequence– form trivial chains which allow extraction. We assume that the same account extends not only to postverbal subjects of null subject languages, but also to preverbal CLLDed subjects as well, hence the data in (7b). Stepanov (2001) pursues a similar account, where chain uniformity is dropped in favour of a condition banning intertwined chains².

¹ See Stepanov (2001:22-26) for more details.

² Space limitations prevent me from providing a fuller presentation of the competing accounts here. For a more detailed discussion, see Kotzoglou (2005).

These analyses are reminiscent of Wexler & Culicover's (1980) *Freezing Principle*:

(19) No extraction is possible out of previously moved domains

The above analyses provide a correct description of Subject Condition effects, but it seems that they fail to explain why certain other extractions from moved material are licit. As observed by Spyropoulos (2003), extraction from previously moved constituents does not always result in ungrammaticality. Extraction from subjects of small clauses (20a), from Exceptionally Case-Marked elements (20b), and from elements moved to [Spec, CP] (e.g. in Spanish) give grammatical results:

(20a) Which actor were there pictures of on magazines?

(20b) (?)Which book did you expect the editing of to be better?

(20c) De qua autora_i no sabes [que traducciones *t_i*] han ganado premios internacionales?
of which author NEG know which translations have won awards international
'By which author don't you know which translations have won international awards?'

We, therefore, need an analysis that retains the empirical benefits of the freezing principle account as far as the Subject Condition is concerned, without it being too restrictive (to accommodate (20), for example).

6. The Restriction on Copy Reduction

My account (developed initially for Comp-trace effects, see Kotzoglou forthcoming) amounts to the proposal that phonological reduction of movement copies (Nunes 1999, 2004), i.e. deletion of lower parts of a movement chain

(21) moved element . . . ~~copy~~ . . . ~~copy~~ . . . ~~copy~~

may not erase more than one members of the same chain within a strong phase (Chomsky 2000). In other words, I would like to propose that the following structure is banned:

(22) *_[PhaseA] moved element . . . ~~copy~~ . . . ~~copy~~ _[PhaseB]

This idea bears similarities to Grohmann's (2003) proposal concerning a prohibition on too local movement (anti-locality). Crucially, however, the condition proposed here (a PF rule on the deletion of lower phonological copies)³ takes as its cycle of application Chomsky's phase, and not Grohmann's (2003) *prolific domains*.

This analysis is based on the observation that chain reduction, as discussed and put forth by Nunes, involves a global operation, i.e. the recognition of an entity called "chain" and the phonological deletion of one or more than one of its links under identity with a surviving copy:

(23) **Chain reduction:** Delete the minimal number of constituents of a nontrivial chain CH that suffices for CH to be mapped into a linear order in accordance with the LCA. (Nunes 2004: 27)

³ Grohmann's (2003) Anti-locality is a PF requirement, as well.

Such an operation, however, runs counter to the minimalist proposal that the only elements manipulated by the computational components are the elements drawn from the lexicon as singleton elements as well as the syntactic structures constructed by the operation ‘Merge’. For Nunes’s chain reduction to work, we need to ascribe a special status to “chains”. However, the notion of chain is a residue of GB approaches to grammar and has a representational flavour, since it involves more than two copies of an element being accessed simultaneously (and, some of them, deleted).

Let us, then, make an alternative proposal: that phonological deletion applies to pairs of copies of a linguistic element. So, at PF all possible pairs of copies of an element are examined and one of the members of each pair (usually –but not always– the lowermost one) is phonologically silenced (for the reasons discussed in Nunes (1999), i.e. antisymmetry/LCA). However, a problem arises: if more than one pairs of the same elements are computed, that is, if more than two copies of an element remain “active” within the lifespan of a single phase, then PF gets conflicting instructions as to the spell-out of one copy (at least). So let us imagine that three copies of element α (call the α_1 , α_2 , and α_3) are active within the lifespan of a phase.⁴

(24) [_{Phase} α_1 . . . α_2 [_{Phase} α_3]]

Phonological deletion gives, say, the following results:

(25a) $\langle \alpha_1, \alpha_2 \rangle \Rightarrow \langle \alpha_1, \emptyset_2 \rangle$ (phonological deletion of α_2 – pronunciation of α_1)

(25b) $\langle \alpha_1, \alpha_3 \rangle \Rightarrow \langle \alpha_1, \emptyset_3 \rangle$ (phonological deletion of α_3 – pronunciation of α_1)

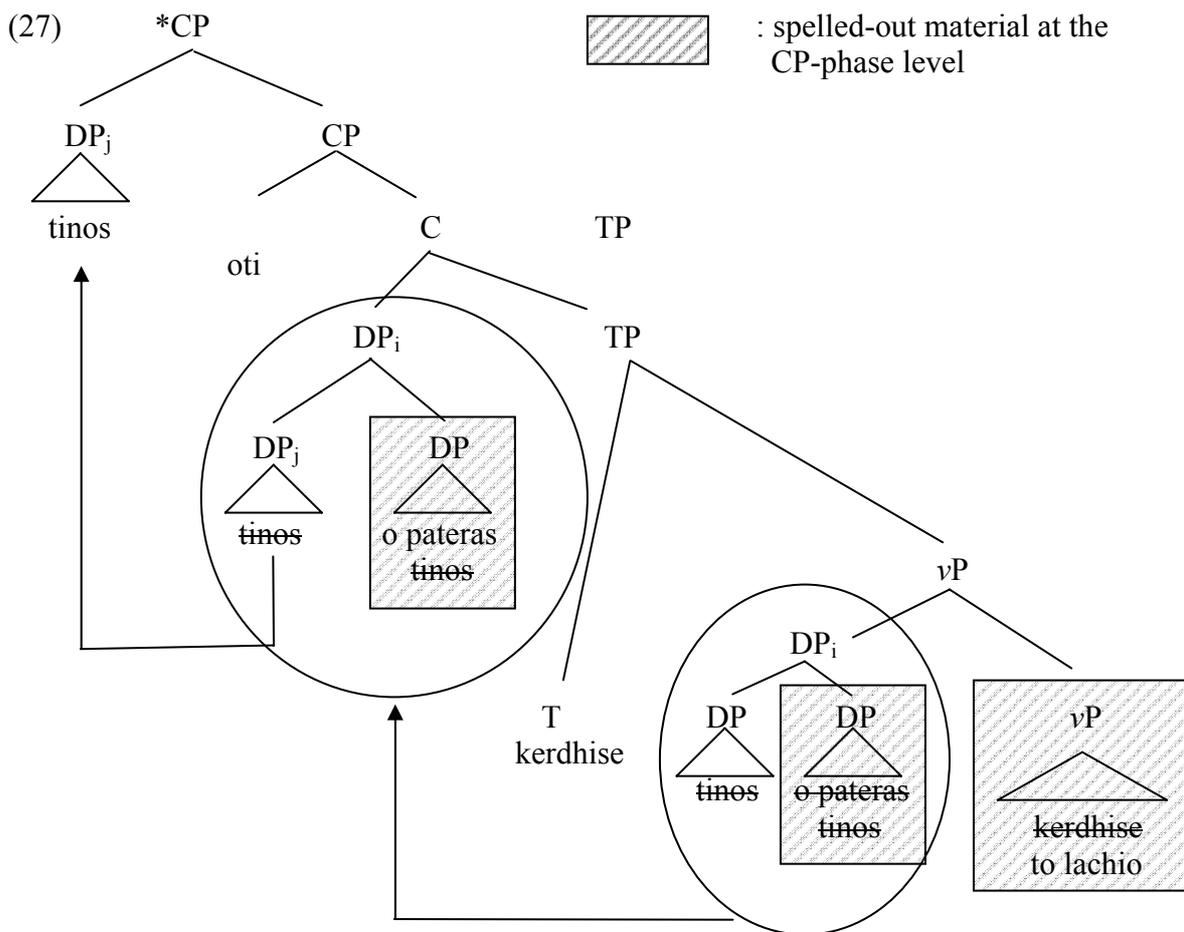
(25c) $\langle \alpha_2, \alpha_3 \rangle \Rightarrow \langle \alpha_2, \emptyset_3 \rangle$ (phonological deletion of α_3 – pronunciation of α_2)

Now, we can see that PF gets conflicting instructions as to the pronunciation of α_2 . α_2 should be pronounced according to (25c), but it should be silenced according to (25a). Therefore the derivation crashes at PF. The only way for the derivation to survive would be if α moved from the α_3 to the α_1 copy without passing through the non-edge α_2 position. We therefore reach the following modification of Nunes’s *chain reduction*:

(26) **Chain reduction** (deletion of the phonetic content of the lower parts of a chain) can apply to at most one pair of copies of an element in each phase

Considering that the possessor raised to the edge of a subject DP is visible on all sites that this DP has occupied, if a subject DP would raise to [Spec, TP] in Greek, sub-extraction from it would result in three copies of *tinós* being active at the CP-phase level (one in the DP at [Spec, ν P], one in the DP at [Spec, TP] and one at [Spec, CP]):

⁴ For reasons that will become evident below, let us suppose that α_3 is on the edge of the lower phase. It is still visible in the higher one, though.

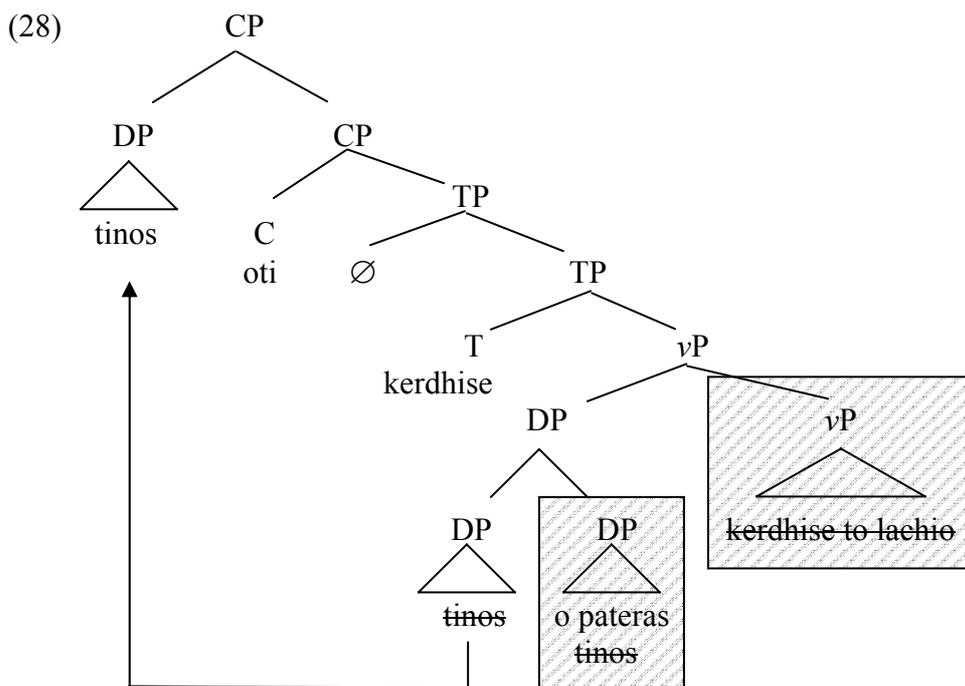


In fact, (27) is an illustration of why sub-extraction from subject DPs is banned in non-null subject languages, such as English. The only reason that I have used Greek words (as (27) would never be a possible derivation in Greek), is in order to contrast (27) with the following cases of permissible extractions from Greek subjects:

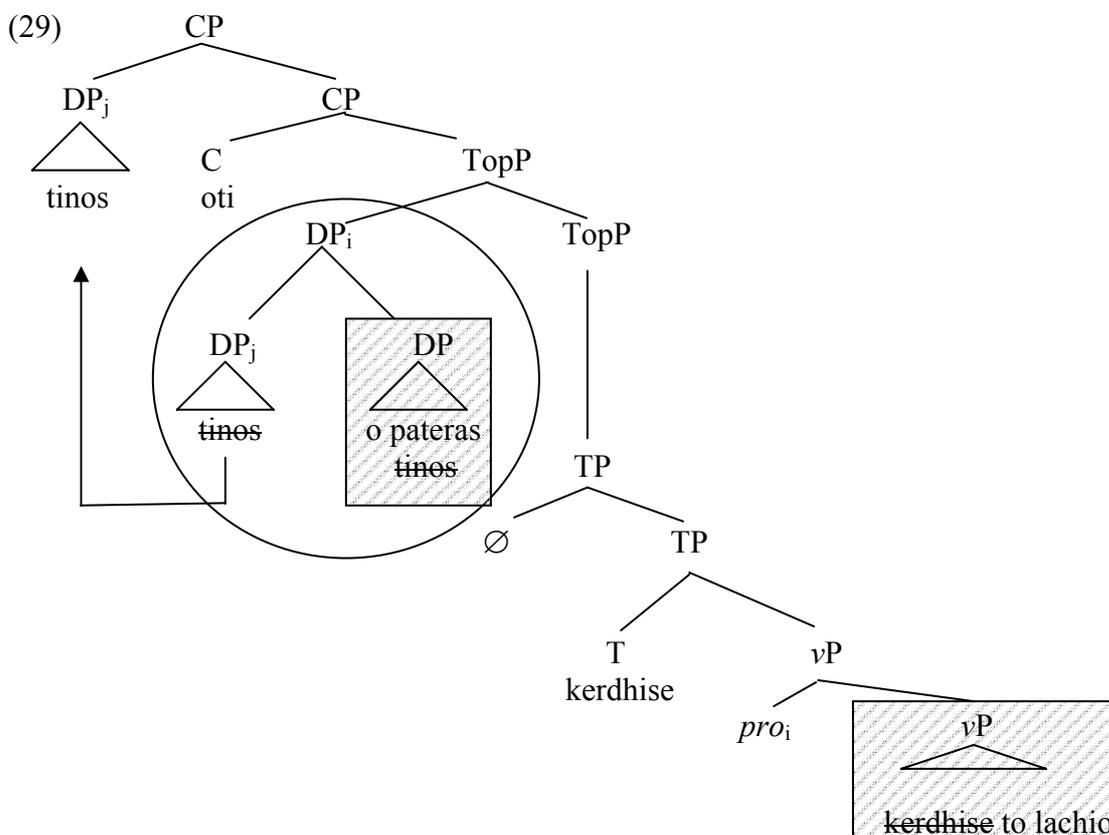
Extraction from postverbal subjects (see (28)) proceeds directly from the [Spec, ν P] copy without problems⁵. Only one copy of *tinos* (the one on the edge of the lower ν P) is PF-deleted and no violation of the Restriction on Copy Reduction principle ensues.

⁵ All of the sentences in this section are based on the declarative sentence:

(i) o pateras tinos kerdhise to lachio
the father whose won the lotto



Similarly, extraction from preverbal CLLDed subjects (as in (29)) does not create any problems, since again the extraction domain is a base-generated one. Therefore, movement from CLLDed subjects leaves only one phonetically silenced copy at the CP-phase level:



Note that this proposal explains why extraction from objects is perfectly licit: objects either stay at their base position or (according to some researchers) move to the periphery of the ν P. In either case they do not move to a non-edge position and, therefore, they do not inflict a violation of (26).

The same rationale extends to extractions from ECM-subjects (20b) and material moved to [Spec, CP] (20c). Such sub-extractions are licit since ECM-subjects and interrogative constituents move to the edges of the ν P (not uncontroversially, though) and CP phases, respectively,

7. Conclusions

In conclusion, let me go through a number of benefits of the approach adopted here:

- a) It gives a non-government-based explanation for the Subject Condition.
- b) It explains the correlation between the null subject parameter and the lack of Subject Condition effects.
- c) It explains why extraction from in-situ subjects or ECM subjects is permitted even in languages which exhibit the Subject Condition.
- d) By assuming that the Subject Condition is a PF effect, it explains why its effects are ameliorated by sluicing (Merchant 2001; Lasnik & Park 2003).
- e) It does not overgenerate and it can capture other cases of *freezing principle* violations, such as the ungrammaticality of extraction from topicalized, scrambled or contrastively focalized material (see Müller 1995).

References

- Abney, S. P. (1987). *The English noun phrase in its sentential aspect*. Doctoral dissertation, Massachusetts Institute of Technology.
- Alexiadou, A. (2004). "On the development of possessive determiners: consequences for DP structure". In E. Fuss & C. Tips (eds), *Diachronic clues to synchronic grammar*. Amsterdam: John Benjamins, 31-58.
- Alexiadou, A. & E. Anagnostopoulou (1998). "Parametrizing AGR: word order, V-movement and EPP-checking". *Natural Language and Linguistic Theory* 16: 491-539.
- Barbosa, P. (1995). *Null subjects*. Doctoral dissertation, Massachusetts Institute of Technology.
- Chomsky, N. (1993). "A minimalist program for linguistic theory". In K. Hale & S. J. Keyser (eds), *The view from building 20: essays in linguistics in honor of Sylvain Bromberger*. Cambridge, Massachusetts: MIT Press, 1-52.
- Chomsky, N. (2000). "Minimalist inquiries: the framework". In R. Martin, D. Michaels & J. Uriagereka (eds), *Step by step: essays on minimalist syntax in honor of Howard Lasnik*. Cambridge, Massachusetts: MIT Press, 89-155.
- Cinque, G. (1980). "On extraction from NP in Italian". *Journal of Italian Linguistics* 5: 47-99.
- Gavruseva, E. (2000). "On the syntax of possessor extraction". *Lingua* 110: 743-772.
- Giorgi, A. & G. Longobardi (1991). *The syntax of noun phrases: configuration, parameters and empty categories*. Cambridge: Cambridge University Press.
- Grohmann, K. K. (2003). *Prolific domains: on the anti-locality of movement dependencies*. Amsterdam: John Benjamins.
- Horrocks, G. & M. Stavrou (1987). "Bounding theory and Greek syntax: evidence for *wh*-movement in NP". *Journal of Linguistics* 23: 79-108.
- Huang, C.-T. J. (1982). *Logical relations in Chinese and the theory of grammar*. Doctoral dissertation, Massachusetts Institute of Technology.
- Johnson, K. (2002). *An etiology of adjunct island*. Ms., University of Massachusetts at Amherst.
- Koot, H. & E. Mathieu (2003). "What's in an island?". *UCL Working Papers in Linguistics* 15, 277-313.
- Kotzoglou, G. (2005). *Wh-extraction and locality in Greek*. PhD Thesis, University of Reading.
- Kotzoglou, G. (forthcoming). "Comp-trace effects are EPP-driven: the role of anti-locality". In *Proceedings of WECOL*.

- Lasnik, H. & M.-K. Park (2003). "The EPP and the subject condition under sluicing". *Linguistic Inquiry* 34: 649-660.
- Lasnik, H. & M. Saito (1992). *Move α : conditions on its application and output*. Cambridge, Massachusetts: MIT Press.
- Longobardi, G. (2001). "The structure of DPs: some principles, parameters, and problems". In M. Baltin & C. Collins (eds), *The handbook of contemporary syntactic theory*. Oxford: Blackwell Publishing, 563-603.
- Merchant, J. (2001). *The syntax of silence: sluicing, islands, and the theory of ellipsis*. [Oxford Studies in Theoretical Linguistics]. Oxford: Oxford University Press.
- Müller, G. (1995). *A-bar syntax: a study in movement types*. Berlin: Mouton de Gruyter.
- Nunes, J. (1999). "Linearization of chains and phonetic realization of chain links". In S. D. Epstein & N. Hornstein (eds), *Working minimalism*. Cambridge, Massachusetts: MIT Press, 217-249.
- Nunes, J. (2004). *Linearization of chains and sideward movement*. Cambridge, Massachusetts: MIT Press.
- Nunes, J. & J. Uriagereka (2000). "Cyclicity and extraction domains". *Syntax* 3: 20-43.
- Philippaki-Warbuton, I. (1987). "The theory of empty categories and the *pro*-drop parameter in Modern Greek". *Journal of Linguistics* 23: 289-318.
- Rizzi, L. (1982). *Issues in Italian syntax*. Dordrecht: Foris Publications.
- Solà, J. (1992). *Agreement and subjects*. Doctoral dissertation, Universitat Autònoma de Barcelona.
- Spyropoulos, V. (1999). *Agreement relations in Greek*. Doctoral dissertation, University of Reading.
- Spyropoulos, V. (2003). "Head movement: syntax or phonology?". Paper presented at the 6th International Conference on Greek Linguistics, University of Crete, September 2003.
- Spyropoulos, V. & I. Philippaki-Warbuton (2001). "'Subject' and EPP in Greek: the discontinuous subject hypothesis". *Journal of Greek Linguistics* 2: 149-186.
- Stepanov, A. (2001). *Cyclic domains in syntactic theory*. Doctoral dissertation, University of Connecticut.
- Svenonius, P. (2004). "On the edge". In D. Adger, C. de Cat & G. Tsoulas (eds), *Peripheries: syntactic edges and their effects*. Dordrecht: Kluwer Academic Publishers, 259-287.
- Szabolcsi, A. (1994). "The noun phrase". In F. Kiefer & K. É. Kiss (eds), *Syntax and semantics 27: The syntactic structure of Hungarian*. New York: Academic Press, 179-274.
- Takahashi, D. (1994). *Minimality of movement*. Doctoral dissertation, University of Connecticut.
- Toyoshima, T. (1997). "Derivational CED: a consequence of the bottom-up parallel-process of merge and attract." In B. Agbayani & S.-W. Tang (eds), *Proceedings of West Coast Conference on Formal Linguistics* 15. Stanford, CA: CSLI Publications, 505-519.
- Tsimpli, I. M. (1990). "The clause structure and word order in Modern Greek". *UCL Working Papers in Linguistics* 2: 226-255.
- Uriagereka, J. (1999). "Multiple spell-out". In S.D. Epstein & N. Hornstein (eds), *Working minimalism*. Cambridge, Massachusetts: MIT Press, 251-282
- Wexler, K. & P. W. Culicover (1980). *Formal principles of language acquisition*. Cambridge, Massachusetts: MIT Press.