

Decomposing EPP effects in Greek enclisis

1. Introduction

The nature of the Extended Projection Principle (EPP) (see e.g. Chomsky 1981, 1995, 2001, 2005) has always been controversial within generative linguistics. In this paper I will argue in favour of a decompositional approach to the EPP following ideas put forward in Landau (2007), on the basis of data drawn from finite enclisis in Cypriot Greek (see e.g. Agouraki 1997, 2001, 2010, 2015; author 2010, 2013; Chatzikiyriakidis 2010, 2012; Condoravdi & Kiparsky 2001; Pappas 2004; Philippaki-Warbuton 1995, 1998; Revithiadou 2006, 2008; Rivero 1994; Rivero & Terzi 1995; Terzi 1999a,b). An example illustrating the finite enclisis pattern is provided in (1) below:

- (1) a. Lali **mu** **to** pkios?
 Say.3sg me.cl.gen it.cl.acc who.nom
 b. ***Mu to** lali pkios?
 c. Pkios **mu** **to** lali?
 Who.nom me.cl.gen it.cl.acc say.3sg
 d. *Pkios lali **mu to**?
 ‘Who is saying it to me?’

As shown in (1), either the verb or a preverbal quantifier has to appear in clause-initial position in order for the sentence to be grammatical. Crucially, though, these two strategies are in complementary distribution, as illustrated in (1d). My main contribution will be to show that this characteristic pattern, found in all Tobler-Mussafia languages, follows from a phonological/spell-out requirement imposed on an Agreeing functional head that c-selects TP/INFLP and is structurally and functionally defined, but crucially not in terms of feature content (a decomposed EPP, in the sense of Landau 2007):

- (2) [..._{HP} **H** [_{TP} TP [_{VP...V...}]]]]

H = { f_1 ; f_2 ; ... f_n } and **feature projection** is subject to $f_1 > f_2 > \dots f_n$

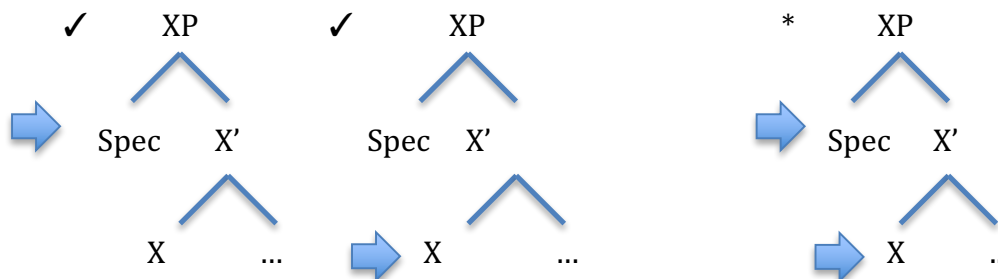
(2) further specifies that H may come in flavours (i.e. it may contain different types of features), where insertion and projection of each feature is regulated by a feature projection algorithm of some sort (which may or may not be reduced to independent semantico-syntactic restrictions). I will argue that the Edge of this head must be realized by material with phonological content:

- (3) [HP *Spec* [H' $H_{[+feature]}$ [YP WP Y ZP]]]



Given that the Edge of a projection is taken to include both the head and the spec¹, and assuming that this requirement, being an interface requirement, is restricted by Economy, realization of either the head or the spec must be sufficient (see also Collins 2007; Koopman 2000; Kupula 2011; Landau 2007; Pearson 2005):

(4)



It is exactly this Economy restriction that gives rise to the complementarity distribution pattern illustrated in (1) above. I will further show that obligatory non-finite enclisis in CG (and SMG) also involves an Edge Requirement imposed on H, however in this particular case a morpho-syntactic/affixal requirement that is imposed on H for independent reasons within Morphology blocks the complementary distribution. Finally, I will speculate that finite enclisis is not found in languages like SMG due to the fact that H is parameterized.

This paper is structured as follows: section 2 gives the theoretical background regarding the EPP and introduces the notion of the EPP adopted in this paper. Section 3 offers a detailed presentation of finite enclisis in CG (and of enclisis in CG and SMG more generally). Section 4 provides an analysis of the data based on the EPP decomposition proposed in Landau (2007). Section 5 concludes the discussion.

2. Theoretical background

Researchers have been disagreeing on whether the EPP constitutes a theoretical primitive or not (see e.g. Grohmann, Drury & Castillo 2000; Landau 2007; Lasnik 2003 for an overview). For this reason, linguists have been trying to reduce it to independent principles (such as case or agreement – see e.g. Fukui & Speas 1986). But, what is the EPP? Initially, the EPP was taken to be a grammatical rule that ensured that a finite clause has an overt subject. Within Government and Binding (GB) Theory, this would translate to the requirement that finite T/AGR projects an overt specifier (at least in languages like English):

- (5) a. [TP *(John) [T' T [vp sleeps]]]. [Finite T]
 b. [TP John decided [CP [TP (*Mary) [T' to [vp sleep]]]]]. [Non-finite T]

¹ Note that this definition of the Edge would carry over to a Phonological domain X, as long as the relevant projection lies at the Edge of X.

Nowadays, this view has changed considerably. First of all, most researchers agree that the EPP applies to any functional head (i.e. C, T, v, n, p, ...) (see e.g. Chomsky 2000, 2001). This follows from the assumption that the EPP is some sort of feature (categorical, non-categorical, or of a more generalised nature) that is added to one or more morpho-syntactic features, the latter typically being taken to reside within a functional head (e.g. phi features). The role of the EPP, then, is to trigger overt displacement of an agreeing constituent. Given that according to this view the EPP is a morpho-syntactic feature, two additional standard assumptions follow: (a) satisfaction of the EPP may be parameterised in that languages may differ in whether a head X or a phrase XP may satisfy the EPP by being merged at a functional head F (see e.g. Alexiadou & Anagnostopoulou 1998 for V-to-T movement in pro drop languages satisfying a D-feature on T); (b) the X or XP satisfying the EPP may be phonologically overt or covert (e.g. PRO or pro), as what is at issue is merger of an abstract feature bundle.

Despite the general consensus that the EPP has a morpho-syntactic basis, it has been pointed out by various researchers that in many cases the empirical picture leads to the observation that the EPP is directly related to a semantic and/or PF effect. These would include phenomena such as pro drop (see e.g. Alexiadou & Anagnostopoulou 1998), clitic doubling (see e.g. Alexiadou & Anagnostopoulou 1997), or V2 (see e.g. Roberts 2005), among many others. A similar point follows from theoretical considerations, as the EPP regulates displacement, which may or may not be overt and which may include total or partial pied-piping of morpho-syntactic material (see e.g. Chomsky 1995). Landau (2007) goes one step further and argues that the EPP has properties which clearly differentiate it from other morpho-syntactic features, including strict locality, headedness, and economy. For this reason, he proposes that the EPP is a selectional PF feature applied on a particular morpho-syntactic feature. This PF feature must be satisfied at PF via the spell-out of (the head of) an appropriate (morpho-syntactic) copy (i.e. a copy which satisfies locality and headedness). Similar PF approaches to the EPP have been proposed also by various other researchers (cf. e.g. Sigurdsson 2010; for the use of PF diacritics see Holmberg 2000; Manzini & Savoia 2002; Richards to appear; Roberts & Roussou 2002).

If one assumes that the EPP involves a PF requirement, one issue that arises is what the best way is to model this requirement, especially so with regard to the syntax - PF interface. For example, would we need to posit a diacritic that is present on a morpho-syntactic feature but whose satisfaction is checked at PF? Or, could we get rid of the morpho-syntactic diacritic, and simply postulate a purely PF requirement, without any look-ahead in the syntax? Moreover, would we want to say that the PF component may move items as a Last Resort (or, more generally, that it may have syntax-like properties), or would we prefer it to have filter-only properties (see Bošković 2001 for a comparison of various possible syntax-PF interface models)? In this regard, various proposals have been offered in the literature (for a discussion see Landau 2007; Pesetsky 1998; Richards 2010, to appear), but it is not as yet clear whether it is feasible, theoretically and empirically, to have a purely PF requirement or not. What most researchers agree on, though, is that PF should be as much restricted as possible.

A second question revolves around the PF requirement itself: if the EPP is interpreted as a requirement to phonologically realise an XP or X at a certain functional head (which carries the relevant morpho-syntactic feature), do we expect to find any interaction in those cases where both an XP and an X can be realised overtly (for independent reasons)? In this respect, it has been pointed out in the literature that cross-linguistically the spec and head of a projection need not (and, by economy, must not) be realised phonologically at the same time (although one of them must be spelled-out – see Speas 1995; Landau 2007). This restriction is more generally known as the doubly filled Comp filter (see Chomsky and Lasnik 1977), however it is implicated in other domains besides the CP, as illustrated in (6-9) below (for pro-drop see Alexiadou & Anagnostopoulou 1998; for clitic doubling see Sportiche 1992/1998; for the PP domain see Collins 2007; Nchare & Terzi 2014):

CP domain

- (6) a. *<sub>[DP The man [_{CP} who_i [_{C'} C that [_{IP} I saw t_i]]]]].
 b. The man who I saw.
 c. The man that I saw.</sub>
- a'. *<sub>[DP O anthropos [_{CP} ton opio_i [_{C'} C pu [_{IP} idha t_i]]]]].
 The man.nom the whom.acc that saw.1sg
 b'. O anthropos ton opio idha.
 c'. O anthropos pu idha.</sub>

T(P) domain [pro drop]

- (7) a. *_{[TP O Nikos [_{T'} T efiye [_{VP} ...]]]}
 b. _{[TP O Nikos [_{TP} pro [_{T'} T efiye [_{VP}...]]]]}
 c. _{[TP [_{T'} T Efiye [_{VP} o Nikos]]]}

v(P) domain [clitic doubling]

- (8) a. *_{[_{VP} Ton Niko [_{VP} pro [_{v'} V-v ton ide [_{VP} [_{v'} (V) (ton) (ton Niko)]]]]]]]}
 b. _{[_{VP} pro [_{v'} V-v ton ide [_{VP} [_{v'} (V) (ton) ton Niko]]]]]}

P(P) domain [r-pronouns in English]

- (9) a. *_{[I went [PP there [P' to P (there)]]]}
 b. _{[I went [PP there [P' ∅ P (there)]]]}

What is interesting about this pattern is that it involves complementary distribution, strict locality² (i.e. the relevant spec or head must be realised locally at a functional head, so that long – distance AGREE of abstract morpho-syntactic features is not sufficient in this respect), and wide distribution (i.e. it applies with various functional heads). Crucially, it is the same pattern found with finite enclisis. Moreover, it seems to differ from criterial effects (see Rizzi 1996), where both the spec and the head of a projection are realised overtly (although, crucially, they do not have to): if the EPP is due to a PF requirement being independently available by UG, we would prefer it to be uniform across languages (the null hypothesis). Parameterisation should be forced only by the empirical picture, and it might involve syntax and/or PF (and see author to appear for a proposal along these lines regarding EPP parameterisation vis-à-vis V2 and 2P phenomena).

In what follows I will propose that enclisis in CG and SMG falls within the realm of the EPP, giving support to the claim that the EPP involves a PF requirement applied on an independently established AGREE relationship. Such an approach puts enclisis together with phenomena such as pro drop, doubly-filled comp filter effects, clitic doubling, stylistic fronting, as well as that-trace effects, in that all of them involve a complementary distribution of phonologically realised constituents that are in a local relationship.

3. Enclisis in CG and SMG

3.1 Overview

I will start the discussion by giving an overview of enclisis in CG and SMG. For detailed descriptions see Agouraki 1997, 2001, 2010, 2015; author 2010, 2013; Chatzikyriakidis 2010, 2012; Condoravdi & Kiparsky 2001; Pappas 2004; Philippaki-Warbuton 1995, 1998; Revithiadou 2006, 2008; Rivero 1994; Rivero & Terzi 1995; Terzi 1999a,b). The main generalization to keep in mind is the following: in SMG enclisis strictly correlates with lack of person and/or restricted person specification on the verbal host (see author 2010). In CG, on the other hand, enclisis correlates with properties of the left periphery of the clause, and only residually with lack of person and/or restricted person on the verbal host³.

More specifically, in SMG a clitic (cluster) immediately precedes or follows the verbal host, depending on the finiteness properties of the latter:

- (10) a. O Janis **tin** aghapai ti Maria.
 The Janis.nom her.cl.acc love.3sg the Maria.acc
 'John loves her, Mary.'

² Note that the notion of locality used here is potentially distinct from the syntactic notion of locality: according to the latter, the head of a complement is local to the head selecting it. However, and as we will see later on in section 3, the EPP forces the head of the complement to be spelled-out on the c-selecting head (which carries the relevant c-selecting/morpho-syntactic feature). In other words, PF locality is fed by syntactic-locality, a nice result if PF simply reads off syntax (see Landau 2006, 2007 on this point).

³ A caveat is in order here: the terms 'proclisis' vs. 'enclisis', as used here, refer to the linear order between a clitic and a verbal host, not to phonological proclisis/enclisis (which may or may not coincide with linear proclisis/enclisis – see Klavans 1985). For a discussion of phonological proclisis/enclisis in CG see Revithiadou (2006, 2008).

- b. Jani, aghapa **tin** ti Maria!
 John.voc, love.imp.impf.2sg her.cl.acc the Maria.acc
 'John, love Mary!'

CG also has obligatory enclisis with non-finite verbal hosts⁴:

- (11) a. Esi, thkiavase **to!**
 You.voc, read.imp.perf.2sg it.cl.acc
 'You read it!'
 b. Thkiavazondas **to** eyo...
 reading it.cl.acc I.nom...
 'I reading it..'

With finite verbal hosts, however, CG has enclisis by default:

- (12) a. Ethkiivasen **mas to** i Maria.
 Read.3sg us.cl.gen it.c.acc the Maria.nom
 'Mary read it to us.'
 b. Ethkiivasen **mas to** i Maria?
 Read.3sg us.cl.gen it.cl.acc the Maria.nom
 'Did Maria read it to us?'

Proclisis typically arises if some preverbal constituent of a particular type *c-commands* the finite {CL, V} 'cluster'⁵. Depending on the phrase structure status of the *c*-commanding constituent, the following sub-cases can be distinguished (see also author 2013 for languages with finite enclisis (Tobler – Mussafia languages) more generally):

(a) the *c*-commanding constituent is an *XP*

Typically, this sub-type involves either operator phrases and/or stressed phrases (including *wh*-phrases, *verum focus* phrases, and contrastive focus phrases⁶). Note that if the relevant *XP* does not *c*-command the {CL, V} cluster, enclisis obtains:

- (13) a. *Pkios to* ethkiivasen? [subject *wh*-phrase]
 Who.nom it.cl.acc read.3sg
 'Who read it?'
 b. Ethkiivasen **to** *pkios*? [subject *wh*-phrase in situ]
 'Read it who?'

⁴ In this respect, CG differs from languages like Medieval Greek or Bulgarian, which allow proclisis with non-finite verbal hosts (see Pappas 2004; Pancheva 2005) as long as the clitic is not clause initial.

⁵ {CL, V} does not imply any ordering relation, i.e. {CL, V} = [CL V] or [V CL].

⁶ Note that preverbal negative phrases (which are typically stressed) require the presence of a negation particle (negative concord), which immediately precedes the {C, V} cluster and triggers proclisis (as revealed from cases with post-verbal negative phrases (ii)):

- (i) *Tipota en mu* edhoke.
 Nothing neg me.cl.dat gave.3sg
 (ii) *En mu* edhoke tipota.
 'S/he did not give me anything.'

- c. *Ti tu* edhokes? [object wh-phrase]
 What.acc him.cl.gen gave.2sg
 'What did you give him?'
- d. Edhokes *tu ti?* [object wh-phrase in situ]
 'You gave him what?'
- (14) a. *EYO to* edhoka, oi i Maria. [stressed subject phrase]
 I it.cl gave.1sg not the Maria.nom
 b. Edhoka *to EYO*, oi i Maria. [stressed subject phrase in situ]
 'I gave it, not Mary.'
 c. *TUTO mu* edhoke. [stressed object phrase]
 THIS.acc me.cl.gen gave.3sg
 d. Edhoke *mu TUTO*. [stressed object phrase in situ]
 'THIS is what he/she gave me.'
- (15) a. *KALA to* lalun. [stressed adverb]
 WELL it.cl.acc say.3pl
 b. Lalun *to KALA*. [stressed adverb in situ]
 'They say it correctly'.

Note that there are certain preverbal XPs that give rise to enclisis. These XPs are typically interpreted as topics and must be cliticized when they function as objects. Note that contrastive topics are typically stressed, so a stressed preverbal XP is not a sufficient condition for proclisis:

- (16) a. *I Maria* ipen *mu* oti... [subject topic]
 The Maria.nom said.3sg me.cl.gen that...
 'Mary told me that...'
- b. *Tsinu* ipen *tu* i Maria oti... [IO topic]
 that.one.gen said.3sg him.cl.gen the Maria.nom that
 'That one, Mary told him that...'
- c. *Tuto* ipen *tu to* i Maria. [DO topic]
 this.acc said.3sg him.cl.dat it.cl.acc the Maria.nom
 'This, Mary said it to him.'
- d. *Tu KOSTA* edhoka *tu* to mavro vivlio,
 The KOSTA.gen gave.1sg him.cl.gen the black.acc book.acc
 tse *tis MARIAS* edhoka *tis* to aspro. [Contr topic]
 and the MARIA.gen gave.1sg her.cl.gen the white.acc
 'As for Kostas, I gave him the black covered book, and as for Maria, I gave her the white covered one.'

(b) the c-commanding constituent is an X

This sub-type typically involves preverbal particles such as negation and modality markers, or alternatively certain complementisers.

- (17) a. *En to* iksera. [negation particle]
 NEG it.cl.acc knew.1sg
 'I did not know it.'
- b. *Thelo na sas* po tuto. [subjunctive particle; embedded]
 want.1sg SUBJ you.cl.gen say.1sg this.acc
 'I want to tell you this.'
- c. *Na sas* po tuto. [subjunctive particle 2]
 SUBJ you.cl.gen say.1sg this.acc
 'Allow me to tell you this.'
- d. *Enna sas* po tuto. [future particle]
 WILL you.cl.gen say.1sg this.acc
 'I will tell you this.'
- e. *Perki su to* feri. [modality marker]
 Maybe you.cl.gen it.cl.acc bring.3sg
 'Maybe he/she will bring it to you.'
- f. *Ipen pos/oti to* efere i Maria. [Comp]
 Said.3sg that it.cl.acc brought.3sg the Maria.nom
 'He/she said that Maria brought it.'
- g. *Eshi pollus anthropus pu tin* kserun. [Comp]
 Have.3sg many.acc people.acc that her.cl.acc know.3pl
 'There are many people that know her.'
- h. *En ksero an ton* aghapai i Maria. [Comp]
 NEG know.1sg whether him.cl.acc love.3sg the Maria.nom
 'I do not know whether Mary loves him.'
- i. *Ama me* idhe i Maria... [Comp]
 when me.cl.acc saw.3sg the Maria.nom
 'When Maria saw me...'

c) two or more c-commanding constituents:

An important question is what happens when there are more than one preverbal constituents. The following patterns apply: (i) when both an *X* and (at least) one *XP* precede the clitic (cluster), it is the closest c-commanding constituent that determines the position of the clitic (cluster) in relation to the verbal host:

- (18) a. *Ipen oti i Maria* edhoken **tu** to vivlio. [Comp, topic]
 Said.3sg that the Maria.nom gave.3sg him.cl.gen the book.acc
- b. *Ipen oti tu* edhoken to vivlio i Maria. [Comp]
 'S/he said that Mary gave him the book.'
- c. *Ipen oti ESI tu to* edhokes,
 Said.3sg that YOU.nom him.cl.dat it.cl.acc gave.2sg,
 oi i Maria. not the Maria.nom [Comp; stressed phrase]
 'S/he said that it was you that gave it to him, not Mary.'

The same principle applies when (at least) two *XP*s precede the clitic (cluster):

- (19) a. *Ti Maria pkios tin idhe?* [topic; wh-phrase]
 The Maria.acc who.nom her.cl.acc saw.3sg
 ‘Mary, who saw her?’
 b. *Tis Marias o Nikolas emilisen tis.* [topic; topic]
 The Maria.gen the Nicolas.nom talked.3sg her.cl.gen
 ‘As for Mary, Nicolas talked to her.’

To summarize, in this section I have shown that in SMG the position of the clitic before or after the verbal host correlates with the person properties of the host. On the other hand, CG only has this pattern for a few, residual cases, with the majority of cases being regulated by the *spell-out* position of certain preverbal CP-related *XP*s and/or *X*s.

3.2 Patterns in the data: The EPP-like distribution of finite enclisis

In this section I will argue that the CG data described earlier have the EPP distribution, in that enclisis only shows up whenever the specifier of a certain functional head is not spelled out.

By way of reminder, generally speaking CG has proclisis when some preverbal operator and/or stressed *XP* (a) or some preverbal Comp/Modal/Neg head (b) c-commands the {CL, V} ‘cluster’, otherwise it has enclisis:

- (20) a. **XP**_[Focus/WH] [CL V]
 b. **X** _[Comp/Mod/Neg] [CL V]
 c. # [V CL]

On the other hand, a Topic *XP* gives rise to enclisis, and the same applies to certain complementisers:

- (21) a. **XP**_[Topic] [V CL]
 b. **X** _[Comp] [V CL]

There are two main interesting facts regarding (20) and (21): first, the proclisis-enclisis alternation seems to correlate with various types of features, which do not constitute a natural class, morpho-syntactically and/or semantically⁷. Second, all these features are typically considered to be projected above TP, i.e. at the left edge of the TP domain and/or at the right edge of the CP domain. Leaving the first issue aside for the moment (but see section 4 below), it would be useful to see whether the relevant projections form some kind of contiguous domain or not. In this regard, Rizzi’s (1997) cartographic enterprise (and much subsequent work after that) offers us a useful localization tool.

In particular, Rizzi (1997) has pointed out that cross-linguistically Topics are generally merged higher than preverbal focused/stressed phrases and/or

⁷ To illustrate with one example, there is no single operation that we know of which is contingent on the presence of a (non-wh) comp or a wh-operator.

wh-phrases. It has been shown by various researchers (see e.g. Iatridou 1991; Anagnostopoulou 1997; Roussou 2000 among many others) that this also applies to SMG, and the same seems to be the case also for CG, given the data presented in section 3.1 (and see the following sentences which illustrate the fact that the reverse order is ungrammatical):

- (22) a. *Tu Kosta ti tu edhokes?*
 The Kosta.gen what.acc him.cl.gen gave.2sg
 b. **Ti tu Kosta tu edhokes?*
 ‘What did you give to Kostas?’
 c. *Tu Kosta TUTO tu edhoka.*
 The Kosta.gen THIS.acc him.cl.gen gave.1sg
 d. **TUTO tu Kosta tu edhoka.*
 ‘To Kostas, THIS is what I gave him.’

Moreover, negation and modal particles are merged lower than preverbal foci or wh-phrases in SMG (see Roussou 2000 and references therein), and the same applies to CG, as illustrated below:

- (23) a. *Tu Kosta pkios na min tu to dhoki?*
 The Kosta.gen who.nom SUBJ NEG him.cl.gen it.cl.acc give.3sg
 ‘To Kostas, who should not give it to him?’
 b. *Tu Kosta pkios enna tu to dhoki?*
 The Kosta.gen who.nom FUT him.cl.gen it.cl.acc give.3sg
 ‘To Kostas, who will give it to him?’
 c. *Tu Kosta o GHIORkos na tu to dhoki.*
 The Kosta.gen the GEORge.nom SUBJ him.cl.gen it.cl.acc give.3sg
 ‘To Kostas, it is GEORge that should give it to him.’
 d. *Tu Kosta o GHIORkos enna tu to dhoki.*
 The Kosta.gen the GEORge fut him.cl.gen it.cl.acc give.3sg
 ‘To Kostas, it is GEORge that will give it to him.’

The partial order in the CG preverbal field is, thus, as follows:

- (24) TopP WhP/FocusP Mod/Neg {CL V}

(24), in combination with the data presented in section 3.1, lead to the following descriptive generalization (to be further revised):

Generalization 1:

- (25) *Merger of a constituent (X or XP) above the {CL, V} cluster up to TopP triggers proclisis.*

In other words, the traditional cut-off point between old and new information (which also maps onto particular prosodic and syntactico-semantic properties) strongly correlates with the proclisis-enclisis alternation in CG. The immediate question that arises is what to do with complementisers. As it has been pointed out earlier, complementisers in CG may trigger proclisis (a), although some

trigger both proclisis and enclisis (b), while some trigger only enclisis (c) (see Chatzikyriakidis 2010; 2012):

- (26) a. Lipume *pu tin* idhes /*idhes **tin** etsi.
 Be.sorry.1sg that her.cl.acc saw.2sg/*saw.2sg her.cl.acc thus
 'I am sorry that you saw her like this.'
- b. *Epidhi* aghapa **tin** /**tin** aghapa, ferni **tis** luluthkia.
 Because love.3sg her.cl.acc/her.cl.acc love.3sg bring.3sg her.cl.gen flowers
 'Because he loves her, he brings her flowers.'
- c. *An tze* theli **ton** /***ton** theli,
 If and want.3sg him.cl.acc/him.cl.acc want.3sg
en tu to lei.
 not him.cl.gen it.cl.acc say.3sg
 'Although she wants him, she does not let him know.'

Leaving the cases in (b) and (c) aside for the moment, what is at stake here is the following: if a complementizer is merged higher than TopP but still triggers proclisis, this makes a unified analysis harder, as in that case a (high) complementizer and the rest of the proclisis-triggering elements have nothing in common. On the other hand, if we had evidence that the proclisis-triggering complementizers were merged below TopP, we could still have a unified analysis in terms of *structural position* (though not in terms of content). Unfortunately, what we find is that complementizers tend to be merged high:

- (27) Lipume *pu tu Kosta en tu* emilises.
 Be.sorry.1sg that the Kosta.gen not him.cl.gen talked.2sg
 'I am sorry that to Kostas (that) you did not talk to him.'

One could assume that the complementizer in (27) starts in some position lower than TopP, where it checks some feature, then moves to the pre-topic position. According to such an approach, what matters for proclisis is that some feature checking takes place in a position below TopP, independently of where the actual complementizer is spelled out. However, there are two main issues with such a hypothesis. First, if the negation particle moves away in (27), enclisis obtains (as now it is the TopP that is the closest element c-commanding the {CL, V} cluster):

- (28) Lipume *pu tu Kosta emilises tu*.
 Be.sorry.1sg that the Kosta.gen gave.2sg him.cl.gen
 'I am sorry that to Kostas (that) you talked to him.'

This suggests that proclisis in (27) is related to the presence of the negation particle, and not to an (unpronounced) copy of the higher complementizer. Second, if the preverbal object topic moves away in (28), proclisis obtains:

- (29) Lipume *pu tu* emilises.
 Be.sorry.1sg that him.cl.gen talked.2sg
 'I am sorry that you talked to him.'

It is not clear whether the complementizer is merged high or low in (29). Given the evidence in (27) and (28), one can assume that the complementizer is merged low, giving rise to proclisis. The problem with this hypothesis is that it predicts the possibility of having the low factive complementizer being preceded by a TopP. However, this is not possible:

(30) *?Lipume tu Kosta pu tu emilises.

It seems then that at least as far as the factive *pu* complementizer is concerned it cannot be merged low. Still, it triggers obligatory proclisis as long as a preverbal topic does not intervene. A similar (though less strong) restriction applies to interrogative *an* 'if'⁸:

(31) ?*Erotisen me tu Kosta an tu emilisa.
 Asked.3sg me.cl.gen the Kosta.gen if him.cl.gen talked.1sg
 'He asked me whether I talked to Kostas.'

This suggests that at least in these cases complementizers triggering obligatory proclisis may be taken to be merged low. Note that the postulation of low complementizers is independently required in order to account for various phenomena, including recomplementation phenomena in languages that allow them (e.g. Spanish, European Portuguese, Italian or English varieties), but also for cases where preverbal topics or foci may precede a (low) complementizer. Consider the following sentences from SMG (examples taken from Roussou 2000):

(32) a. Ipan *ton Niko* pos ton idhe i Maria.
 Said.3pl the Nick.acc that him.cl.acc saw.3sg the Maria.nom
 b. Ipan pos *ton Niko* ton idhe i Maria.
 'They said that as far as Nick is concerned Mary saw him.'
 c. Me rotisan *ton JANI* an thelo na dho.
 Me.cl.gen asked.3pl the JOHN.acc if want.1sg SUBJ see.1sg
 d. Me rotisan an thelo *ton JANI* na dho.
 e. Me rotisan an thelo na dho *ton JANI*.
 'They asked me if it was John that I wanted to see.'

These sentences illustrate the fact that a preverbal object topic or focus may precede or follow certain complementizers. Languages may differ in whether they allow both foci and topics to precede a certain complementizer or not, or whether they allow some or all complementizers to be preceded by a preverbal topic or focus (e.g. recomplementation in Romance languages typically involves only preverbal topics - see e.g. Damonte & Fernández-Soriano; Villa-García 2012 for Spanish - while SMG allows preverbal foci mainly with interrogative complementizers). In terms of analysis, one may assume that the complementizer is merged low in (32) (i.e. close to Rizzi's CFin). Alternatively, one may assume that the complementizer is merged high, with the Topic or Focus phrase merged even higher. Although the latter situation might be

⁸ It remains to be seen whether the same distribution wrt. to preverbal topics or foci also applies to other complementizers which trigger obligatory proclisis, including temporal and causative complementizers.

possible in principle for a Topic (as Topics tend to be recursive), this is more difficult to assume for Foci. Moreover, the fact that Hanging Topics are out in embedded clauses (see e.g. Alexiadou 2006 and references therein) suggests that such high projections (typically merged higher than CForce, the high complementizer position according to Rizzi 1997) are not licensed in these cases. Hence, the postulation of such a high Topic would be unexpected.

Returning to CG, the left periphery of CG embedded clauses has not been investigated. As a result, any conclusions remain programmatic. However, it is clear that certain complementizers, and in fact those that cross-linguistically are reported to be able to merge either high or low, allow for both proclisis or enclisis. These include *oti* and *pos* ‘that’, or *epidhi* and *ghiati* ‘because’ (see 26). One may capture these facts by postulating that a low complementizer triggers proclisis as opposed to a high complementizer, which triggers enclisis. This would fit nicely into the overall empirical picture, as low - only complementizers trigger proclisis systematically, as opposed to high - only ones which always trigger enclisis. This is a hypothesis that remains to be fully evaluated.

One piece of evidence which points towards this direction is the fact that high vs. low complementizers also correlate with semantic/pragmatic differences (besides prosodic/phonological differences). This suggests that they involve distinct morpho-syntactic features (a fact that increases the chances they are merged in distinct positions). Consider the following pair of sentences from Asturian, a language that behaves like CG as far as finite enclisis is concerned:

- (33) a. Digo *qu* ‘ayúdame [#pero nun toi seguru].
 say.1sg that help.3sg-me.cl [#but not am sure]
 ‘I say that s/he helps me, #but I am not sure (that s/he does help me).’
 b. Digo *que me* ayuda [pero nun toi seguru].
 Say.1sg that me.cl help.3sg [but not am sure]
 ‘I say that s/he helps me, but I am not sure (that s/he does help me).’

[Asturian; Fernández-Rubiera 2013: 79 (his (50))]

According to Fernández-Rubiera, enclisis in (33a) correlates with a high Comp (which does not block V-movement to CFin), which in turn correlates with epistemic modality (i.e. the speaker asserts that the reported content is true). (33b), on the other hand, correlates with a low Comp (which blocks V-movement to CFin), which in turn also correlates with epistemic modality (in this case the speaker does not assert the truthfulness of the reported content). Similar semantico-pragmatic effects have been reported for embedded V2 in Germanic languages (see e.g. Meinunger 2006; Truckenbrodt 2006). More importantly, they seem to hold also in CG. In this respect, consider the following sentences⁹:

- (34) a. Legho *oti* evoithisen **me** [#ma en ime sighuros].
 say.1sg that helped.3sg me.cl [but not am sure]
 b. Legho *oti me* evoithisen [ma en ime sighuros].
 say.1sg that me helped.3sg [but not am sure]
 ‘I say that s/he helped me, (#) but I am not sure.’ [CG]

⁹ Thanks to Christina Giannapi (University of Edinburgh) for these judgments.

(37) [CP₂ C₂ [TopP **Top** [CP₁ C₁ [FocusP/WhP **Focus/wh** [CP₁ C₁ [NegP **Neg** [XP ...{CL, V}...]]]]]]]]
*V ✓V

On the other hand, if no head or spec within that area is realized/merged, then (finite) enclisis obtains through merger of V across the cliticization site:

(38) [CP₂ C₂ [TopP **Top** [CP₁ C₁ [FocusP/WhP **Focus/Wh** [CP₁ C₁[NegP **Neg** [XP ...{CL, V}...]]]]]]]]
✓V *V

This give rise to the following abstract generalization:

Generalization 1’:

(39) *Realization of a spec or a head within the high TP - low CP domain blocks realization of the verb within that same domain.*

The issue here is how to best analyse this distribution. In particular, the following issues need to be addressed: does complementarity involve the spec and head of a *single* syntactic head? Or, does it involve the spec and head of *multiple* heads? Alternatively, could the complementarity pattern refer to some (syntactically simplified) post-syntactic domain (e.g. an intonational domain)? Why does spell-out of an XP interact with realization of the verb (i.e. of a head)? These issues are taken up in the following section.

4. EPP as a PF Edge Requirement

Let us repeat the generalization formulated in section 3.2 above. What the data show is that finite enclisis in CG involves activation of the high TP – low CP domain, in the following manner: when a head or phrase is merged within this domain, proclisis obtains. Otherwise, we get enclisis. In other words, any *single* feature merged and spelled out within this particular domain is sufficient to trigger enclisis, independently of whether it is merged high or low within that domain. Assuming that enclisis is analysed as the result of the realization of (a copy of) the verb in some position higher than the cliticization site (note that the clitic and the host are independent morphemes manipulated by the syntactic component - see author 2010 for discussion), then the simplest hypothesis to make is that the complementarity distribution observed with finite enclisis is the result of a certain restriction applied on a single projection (i.e. a feature on the head a projection, or the projection itself). Given that phonological realization is conditioned by the presence of a morpho-syntactic copy, it follows that the restriction must be PF in nature (see also Landau 2007 for a detailed discussion, and also the analysis below), as syntax does not prevent the presence of both copies at the same projection (although it does not force it, either). This is the claim I am going to make in this section. Before I move on to the analysis, let me first present my assumptions:

4.1 Assumptions

I make the following 4 assumptions regarding cliticization and the creation of verbal copies within the extended functional projection:

Assumption 1: clitics

First of all, I assume that clitics in CG (and SMG) target the periphery of vP (where they check a case and/or Topic feature – see e.g. Anagnostopoulou 2003; author 2010), and the periphery of TP (where they check a deixis and/or person feature – see e.g. Anagnostopoulou 2003; author 2010; Bianchi 2003; Nash & Rouveret 2002 for clitics; see also Ritter & Witschko 2009 on INFL as the locus of deixis cross-linguistically):

(40) [_{CP} C [_{TP} **CL** [_{TP} T' [_{vP} (**CL**) [_{vP} V (**CL**)]]]]]]

Assumption 2: c-selection of functional heads

I assume that each functional head locally c-selects (the head of) its complement, potentially via AGREE/FEATURE SHARE (depending on available feature matrices, a Lexicon List 1 issue essentially)¹³. Such a situation may give rise to a chain of heads (Grimshaw's 'extended projection'; see also Landau 2006, 2007; Pesetsky & Torrego 2001; Zwart 2001), which may be realized phonologically by one or more items (an issue of overt displacement, which depends on whether a head is affixal or not, a Morphology property – see Lasnik 1995; Platzack 2010; Zwart 2001, and section 4.3 below). For example, in (41a) v Agrees with V in terms of a V feature, T Agrees with v in terms of a v feature, and C Agrees with T in terms of a T feature¹⁴. This gives rise to an interdependency between sub-chains. An alternative, illustrated in (41b) would be to assume some common feature (say [α]) shared by all functional heads (in which case AGREE/FEATURE SHARE would involve some 'a-categorical' feature, i.e. a feature that is shared by all heads within the extended verbal projection).

¹³ There are technical differences between AGREE and FEATURE SHARING (see Frampton & Gutmann 2000), however it is not clear to me whether they would have any empirical effects on the particular phenomenon studied. I leave this issue aside for future research.

¹⁴ Whether c-selection requires AGREE/FEATURE SHARING is an issue that is under debate. What is important for my purposes is that a mechanism is in place that allows for heads to create a copy to the next higher position (giving rise to traditional head movement effects – see Travis 1984). This does not deny the possibility that verb movement may, in certain cases, involve syntactic merger (e.g. via remnant movement, or some other mechanism): such a scenario would still be compatible with my analysis of finite enclisis, as what is crucial is the spell out of a copy under certain conditions, not the creation of the copy per se, which is a matter of morpho-syntax (via feature copying/sharing, by default, or some other mechanism, if required by empirical considerations, e.g. semantic/syntactic differences between structures involving feature copying/sharing and merger).

As briefly mentioned in the main text here and right below, one major problem for the assumption that head copies can be created via AGREE/FEATURE SHARE (i.e. c-selection) is that it requires additional machinery in order to account for the fact that the extended verbal projection may be spelled out by multiple heads (or bundles of heads) – cf. e.g. auxiliary constructions. This could be regulated via PF, either as a morphological/affixal requirement on a head or as a phonological/prosodic requirement (see author 2013 for empirical arguments supporting this idea; see also Landau 2006; Platzack 2010; Zwart 2001).

- (41) a. $[_{CP} \dots C \dots [_{TP} \dots T \dots [_{vP} \dots V \dots [_{VP} \dots V \dots]]]]$
 [C-T] [T-v] [v-V] [V]
- b. $[_{CP} \dots C \dots [_{TP} \dots T \dots [_{vP} \dots V \dots [_{VP} \dots V \dots]]]]$
 [α] [α] [α] [α]
-

Assumption 3: head movement

I further assume that head *movement* is contingent on AGREE among heads – see formation of feature/head chains above – but in the default case the actual movement part is delegated by PF (e.g. through an ‘affixal/morphological’ requirement on a head – see e.g. Landau 2006 for Hebrew V(P) -fronting; Lasnik 1995; Plazack 2010; Zwart 2001, among many others). As discussed in section 4.3, this assumption is empirically supported by non-finite enclisis.

Assumption 4: content is separate from function and structural position

The final assumption is the most important one for my analysis to go through. At the same time, it is the most controversial one. In particular, I assume that the first head H (within the low CP –high TP domain, as evidenced by the cartographic description of the facts given earlier) that c-selects (a portion of) TP may come in flavors¹⁵ in that it may host one or more morpho-syntactic features of various types (e.g. a modal feature, a negation/affirmation feature, or an operator feature) compatible with this particular domain¹⁶.

- (42) $[\dots [_{HP} \mathbf{H}_{[+f]} [_{TP} T [_{VP} \dots V \dots]]]]$

In other words, H may come in flavors, and only a single feature may be inserted, checked, and spelled-out at H.

Despite this variation in terms of featural content, the structural position of H remains constant, and the same applies to its function, which is that of marking

¹⁵ An equally plausible alternative would be to assume that C_{Fin} acts a mediator between the lower domain and a higher active feature/head (e.g. wh- or focus) (see e.g. Roberts 2005, 2012). However, such an assumption would fail to explain without further stipulations why a (moved) topic phrase cannot give rise to proclisis:

- (i) Mila edhoken **mu** i Maria.
 Apples.acc gave.3sg me.cl.gen the Maria.nom
 ‘Apples, Maria gave me.’

Moreover, it would miss the empirical point, namely that Tobler-Mussafia cliticization is an instance of Edge marking.

¹⁶ It would be desirable that feature compatibility (i.e. what mechanism is postulated to allow a feature to be merged at this particular clausal position) be derived from independent semantic or syntactic properties. However, it might well turn out that absolute reduction is not possible on empirical grounds. A separate issue is whether this head can host one or more features. Although this issue is far from settled in the literature, the problem remains the same for all accounts, more or less: multiple features and how these map onto a particular position and/or domain (typically, corresponding to one or more morphemes in the Lexicon) require some feature interaction algorithm. This is a Lexicon-Syntax interface issue, in essence.

the edge of a morpho-syntactic and/or prosodic domain (possibly, a phase head, in the sense of Chomsky 2000, 2001). The dissociation of content from function and structural position (see Ritter & Wiltscko 2009 for this idea on the basis of cross-linguistic evidence regarding the nature of T) allows us to take into account the variation we have seen (which cannot be accounted for on the basis of a single morpho-syntactic property, as the relevant features do not form a natural class), and at the same time to account for the predictable interaction between H and finite enclisis.

4.2 Analysis

Having presented my assumptions, I wish to make the following theoretical claim, on the basis of the empirical model presented in section 3:

Theoretical Claim

(43) *H has a (morpho-)syntactic requirement and an Edge Requirement, which are separate though interdependent.*

The (morpho-)syntactic requirement of H follows from the fact that it contains a morpho-syntactic feature that must be valued via AGREE. AGREE involves matching between H and some constituent (XP or X). This accounts for semantico-semantic effects, such as the position and interpretation of quantifiers or heads such as negation heads, modal heads, and complementizers (assuming AGREE can be satisfied via external or internal merge – see Ledgeway 2008).

The Edge Requirement basically says that (the valued feature in) H needs to be spelled out. A (copy) of an overt head or a phrase merged at H may satisfy this requirement (see also Collins 2007; Landau 2007; Nchare & Terzi 2014), presumably because both extend the root (see Roberts 2010 and references therein):

(44) [..._{HP} **Spec** [_{H'} **H**... [_{TP} [_{T'} T [_{VP} [_{V'} V [_{VP} V]]]]]]]]

The Edge Requirement is a PF requirement. First of all, it marks the edge of a domain (potentially linked to both linguistic (e.g. the LCA) and extra-linguistic factors (e.g. processing factors)¹⁷. This relates to the fact that H is typically associated with a prosodic boundary that correlates with the traditional separation between the higher Topic and the lower Focus domain (this boundary carries syntactico-pragmatic information, including the theme: rheme dichotomy). Second, the Edge Requirement must be satisfied *locally* (i.e. it may not be satisfied by a non-local copy) and *once* (i.e. it is restricted by economy in that only the spec or the head may be spelled out but not both). Third, in case nothing is merged at H, PF spells out the copy of T on H as a last resort (recall that the copy is created in the syntax via c-selection, and it is local as it involves the head of the complement of H). In the next section I will show that the Edge

¹⁷ For similar ideas from V2, see Mohr (2009); Zwart 2005.

evidenced e.g. by the fact that the presence of certain preverbal particles blocks their formation):

- (56) a. [na/tha [TP **tu** dhinis /dhosis]]
 SUBJ/FUT him.cl.gen give.imperf.2sg/give.perf.2sg
 ‘You should/will give him.’
 b. *[na/tha [TP **tu** dhine /dhose]]!
 SUBJ/FUT him.cl.ge give.imperf.imp.2sg/give.perf.imp.2sg
 ‘*Give him!’
 c. *[na/tha [TP **tu** dhinondas]]
 SUBJ/FUT him.cl.gen giving
 ‘*to/will giving him’

Given that this special morphology always correlates with a higher position for the verb, and given that the special form is in complementary distribution with preverbal particles such as *na* or *tha*, it is natural to assume that the morphology resides within H and that it is affixal in nature: T cannot be spelled out in situ; rather it must be spelled out at H (see also Bošković 2004 for SMG imperatives). If this is true, then the Edge Requirement is satisfied trivially. Moreover, it cannot be triggered for prosodic reasons, as there is evidence that the trigger is morpho-syntactic and is in fact obligatory. As CG non-finite enclisis shares the same properties with SMG enclisis, my suggestion is to extend this analysis to CG: H {+imp/+ger}, being suffixal in nature, triggers obligatory spell-out of T on H, satisfying the Edge Requirement trivially. Moreover, any other phrase (such as a FocusP or a wh-phrase) that may be compatible with an imperative or gerund (presumably for independent reasons) is merged in a higher position, as H is already occupied by non-related morpho-syntactic content.

According to this analysis of non-finite enclisis in CG and SMG, obligatory enclisis with imperatives and gerunds is not in complementary distribution with preverbal CP-related XPs, because these verbal forms carry special morphology which is inserted into H and which is affixal in nature. The latter property explains why an imperative or gerund form cannot be spelled-out in T (giving rise to the obligatory enclisis effect), while the former property explains why a preverbal XP is possible (as it checks a feature merged in a higher position, given that H is occupied by special morpho-syntactic features). One prediction of this analysis is that in those languages where special imperative or gerund morphology is non-affixal (or, alternatively is not present in the morpho-syntax) non-finite enclisis will pattern on a par with finite enclisis. Indeed, this appears to be the case both in Medieval Greek (see Pappas 2004) and in Bulgarian (see Pancheva 2005), which both allow an imperative or gerund form in T (as evidenced by the grammaticality of negated imperatives), and have a complementary distribution pattern across the board.

5. Conclusion

The main claim of this paper was that finite enclisis in CG and non-finite enclisis in CG and SMG are amenable to a decompositional analysis of the EPP. In particular, the first head c-selecting TP, H, which contains an unvalued morpho-

syntactic feature, has a contingent PF requirement imposed on it, what I call the Edge Requirement. According to this requirement, the Edge of H must be spelled-out locally and only once. This derives the complementary distribution pattern attested in finite enclisis. In addition, and on the basis of non-finite enclisis, which is obligatory and does not observe a complementary distribution pattern, I argued that the Edge Requirement is a prosodic requirement, related to the function of H, which is to mark the edge of a domain (syntactically, pragmatico-semanticly, and phonologically), rather than a morpho-syntactic requirement. Although there are various approaches in the literature on finite enclisis (cross-linguistically, but also in CG) which have pointed out the importance of the EPP for the analysis of finite enclisis (see e.g. Rivero & Terzi 1995, Terzi 1999a,b for CG; Benincá 2006; Poletto 2014 for Old Italian and Medieval Romance; Fernández-Rubiera 2013 for Asturian; Roberts 2012 for Tobler-Mussafia languages and Slavic languages), typically this involves a morpho-syntactic EPP. The novelty of my approach is that it postulates a PF (part of the) EPP (see also Revithiadou 2006, 2007), which is local and constrained by economy. One advantage of this approach is that it derives all the attested patterns on the basis of a hypothesis which has been shown by Landau (2007) to work on both theoretical and empirical grounds. A second advantage is that it is simple and more easily falsifiable, in that the Edge Requirement is imposed on a structurally and functionally defined head (and not in terms of feature content, which renders the EPP a morpho-syntactic or morphological effect rather than a prosodic one). Although here we do not have the chance to test some of the predictions this theory makes, author (to appear) shows that a local PF EPP (as opposed to a morpho-syntactic EPP, which is neutral to the local vs. distal distinction) makes the correct predictions with regard to relative operators and more generally to low/local vs. high/distal constituents across a number of languages exhibiting finite enclisis. Various questions arise at this point: e.g. how are we to analyse peripheral constituents which trigger only enclisis (see e.g. Agouraki 2015)? How is CG enclisis related to second position cliticization? How is CG enclisis related to V2 phenomena, which also involve a C-T interaction vis-à-vis the EPP? And finally, how is the lack of finite enclisis in languages like SMG to be explained? Although all these questions are relevant to the proposed analysis, I leave them for further research.

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