

# Null C in English as an Enclitic<sup>1</sup>

Željko Bošković  
University of Connecticut

## 1. The ECP analysis

It is well-known that the null complementizer (C) in English has a rather limited distribution. Thus, while both the null C and the overt C are possible in (1), the null C is disallowed in (2). As illustrated in (3), *that* can occur in all the contexts in question.<sup>2</sup>

- (1) a. I believed [<sub>CP</sub> C [<sub>IP</sub> he liked linguistics]]  
b. I believed [<sub>CP</sub> that [<sub>IP</sub> he liked linguistics]]
- (2) Subject clauses  
a. \*<sub>CP</sub> C [<sub>IP</sub> He liked linguistics]] was widely believed.  
Extraposed clauses  
b. \*I believed at that time [<sub>CP</sub> C [<sub>IP</sub> David had left]]  
Pseudoclefted clauses  
c. \*What the students believe is [<sub>CP</sub> C [<sub>IP</sub> they will pass the exam]]  
Right node raised clauses  
d. \*They suspected and we believed [<sub>CP</sub> C [<sub>IP</sub> Peter would visit the hospital]]  
Clauses preceded by a gapped verb  
e. \*Mary believed Peter finished school and Bill [<sub>CP</sub> C [<sub>IP</sub> Peter got a job]]  
Topicalized clauses  
f. \*<sub>CP</sub> C [<sub>IP</sub> John likes Mary]] Jane didn't believe.
- (3) a. [<sub>CP</sub> That [<sub>IP</sub> he liked linguistics]] was widely believed.  
b. I believed at that time [<sub>CP</sub> that [<sub>IP</sub> David had left]]  
c. What the students believe is [<sub>CP</sub> that [<sub>IP</sub> they will pass the exam]]  
d. They suspected and we believed [<sub>CP</sub> that [<sub>IP</sub> Peter would visit the hospital]]  
e. Mary believed that Peter finished school and Bill [<sub>CP</sub> that [<sub>IP</sub> Peter got a job]]  
f. [<sub>CP</sub> That [<sub>IP</sub> John likes Mary]] Jane didn't believe.

Following Kayne (1981), Stowell (1981) argues that the distribution of null complementizers can

---

<sup>1</sup>It is a privilege to be able to dedicate this paper to Midhat Riđanović, my first linguistics teacher. Without him, I would not be a linguist today. To repeat a sentence from my UConn dissertation acknowledgments, his contagious love for the field made it impossible for me not to become a linguist.

<sup>2</sup>Note that I confine the discussion in this paper to verbs that in principle allow null C complements, ignoring those that never allow them.

be accounted for if null complementizers are subject to the Empty Category Principle (ECP). (2a) is then ruled out because the null C is not properly governed. In (1a), the null C is properly governed by the verb. As discussed in Bošković and Lasnik (2003), the ECP analysis faces a number of empirical problems. For example, if right node raising (RNR) constructions involve PF deletion in the first conjunct, as argued in Wexler and Culicover (1980), Kayne (1994), and Bošković (2004b) and shown in the structure in (4), the ungrammaticality of (2d) raises a problem for the ECP analysis because the null C in the second conjunct is properly governed by the verb.<sup>3</sup>

- (4) \*They [<sub>VP</sub> suspected ~~Peter would visit the hospital~~] and we [<sub>VP</sub> believed Peter would visit the hospital]

There is also independent evidence that RNRed clauses are not barriers to government. Thus, as noted by Wexler and Culicover (1980), RNRed elements are not islands for extraction.

---

<sup>3</sup>Wexler and Culicover (1980), Kayne (1994), and Bošković (2004b) give a number of arguments for the superiority of the PF deletion analysis over the rightward movement analysis of RNR, on which the RNRed element undergoes across-the-board (ATB) movement to the right (see Ross 1967/1986, Maling 1972, Postal 1974, among others). I repeat here two arguments from these works.

Wexler and Culicover observe that the shared constituent in RNR can be buried within an island, as illustrated by (i), which is unexpected under the movement, but not under the base-generation analyses of RNR.

- (i) Mary knows a man who buys, and Bill knows a man who sells, pictures of Fred.

Bošković (2004b) observes several parallelisms between ellipsis and RNR, which can be easily captured if RNR involves ellipsis. Thus, Bošković observes that VP ellipsis and RNR of a VP pattern in the same way with respect to what kind of inflectional features they can ignore. The data in (ii)-(iii) illustrate the parallelism.

- (ii) a. ?John was sleeping in her office, and Peter will ~~sleep in her office~~ too.  
 b. John has slept in her house, and now Peter will ~~sleep in her house~~.  
 c. John may be questioning our motives, but Bill hasn't ~~questioned our motives~~.  
 d. John will sleep in her house, and Peter already has ~~slept in her house~~.  
 e. \*John won't enter the championship, but Jane is ~~entering the championship~~.  
 f. \*John was being obnoxious, and Jane will ~~be obnoxious~~ too.
- (iii) a. ?John will ~~sleep in her office~~, and Peter definitely was, sleeping in her office.  
 b. John will ~~sleep in her house~~, and Peter already has, slept in her house.  
 c. John hasn't ~~questioned our motives~~, but Bill may be, questioning our motives.  
 d. John has ~~slept in her house~~, and Peter definitely will, sleep in her house.  
 e. \*John is ~~entering the championship~~, but Jane won't, enter the championship.  
 f. \*John will ~~be obnoxious~~, and Jane actually was, being obnoxious.

Bošković (2004b) also observes that VP preposing, a movement process, differs from VP ellipsis and RNR with respect to the possibility of ignoring inflectional differences of verbal elements. Thus, (iva-c), which indicate that the relevant inflectional differences cannot be ignored under (ATB) movement, contrast with (iiia-c), which in turn provides evidence that RNR does not involve ATB movement.

- (iv) a. \*[Sleeping in her office]<sub>i</sub>, (Peter was t<sub>i</sub> and) John will t<sub>i</sub>.  
 b. \*[Slept in her house]<sub>i</sub>, (John has t<sub>i</sub> and) Peter will t<sub>i</sub>.  
 c. \*[Questioning our motives]<sub>i</sub>, (John may be t<sub>i</sub> and) Peter hasn't t<sub>i</sub>.

- (5) a. Who<sub>i</sub> did they believe, and Mary claim, [that Peter had murdered t<sub>i</sub>]  
 b. How<sub>i</sub> did they believe, and Mary claim, [that Peter had murdered John t<sub>i</sub>]

While RNR null C constructions like (2d) are incorrectly ruled in under the ECP analysis, null C relative constructions like (6) are incorrectly ruled out.

- (6) The child [<sub>CP</sub> Op C [<sub>IP</sub> Alexis was waiting for t]] was lost.

Being adjuncts, relative clauses are barriers to government (see Chomsky 1986). This means that the null C heading the relative clause in (6) is not properly governed, hence the sentence should violate the ECP (see Bošković and Lasnik 2003 for additional empirical problems for the ECP analysis).

The ECP analysis of the distribution of the null C is also problematic conceptually. The analysis is crucially based on the notion of government, which has been eliminated in recent theorizing due to its arbitrary nature (see, for example, Chomsky and Lasnik 1993).

## 2. The PF Merger analysis

### 2.1. Null C licensed by a verb

In an attempt to account for the distribution of null complementizers without appealing to the problematic notion of government, Bošković and Lasnik (2003) provide a new account of the phenomenon based on Pesetsky's (1992) proposal that the null complementizer is an affix that must undergo attachment to a lexical category, more precisely, a verb in the contexts in (1-2). (I return to relative clauses below.) Pesetsky assumes that the affixation takes place through head movement of C to V, which eventually leads him to rule out several constructions where a null C is disallowed by appealing to the ECP, a mechanism that Bošković and Lasnik attempt to eliminate. Following a suggestion made in Bošković (1997), Bošković and Lasnik modify Pesetsky's analysis by assuming that C-to-V affixation does not take place through C-to-V movement, but through PF Merger, which is an update of Chomsky's (1957) affix hopping. Under the PF Merger conception of affixation, an affix can be phonologically realized on a host only if it is adjacent to it in PF (for relevant discussion, see Halle and Marantz 1993, Bobaljik 1995, Lasnik 1995, and Bošković 2001, 2004a). In (2a), Merger between the verb and the null C is blocked due to the lack of PF adjacency between the heads in question. The example is then straightforwardly ruled out due to the presence of a stranded affix. The analysis immediately extends to (2,b,c,f), where, as in (2a), *believe* and the null C are not adjacent in PF.<sup>4</sup> What about (2d)? It is well-known that RNRed elements are parsed as separate

---

<sup>4</sup>Regarding (2c), Bošković and Lasnik assume that the copula is not a proper host for the affix C, which means that C has to get affixed to *believe* in (2c). The assumption is actually unnecessary given that pseudoclefted clauses are parsed as separate intonational phrases (see the discussion below regarding the relevance of intonational phrasing to PF Merger).

It is worth noting here that Bobaljik (1995) stipulates that adjuncts do not count for the purpose of PF adjacency relevant to Merger, which raises a problem for the PF Merger account of (2b) if the phrase preceding the extraposed element is analyzed as an adjunct since then it would not block the merger of the verb and the null C. However, Bošković (2001, 2004a) provides evidence that adjuncts do interfere with PF Merger, which is surely the null hypothesis. The issue is actually going to become irrelevant to the PF Merger analysis of (2b) given the discussion of

intonational phrases. (Notice that they are normally flanked by pauses.) Given that, as argued in Bošković (2001), intonational phrase boundaries block affixation, (2d) can be easily accommodated under the PF Merger analysis. The intonational phrase boundary located between the verb and the null C in the second conjunct blocks the merger of the verb and the null C. (In less technical terms, the problem with (2d) is that a pause intervenes between a host and its affix.)<sup>5</sup> Finally, (2e) can also be straightforwardly accounted for if we adopt Johnson's (1994) analysis of gapping, which treats gapping as across the board V-movement. Under Johnson's analysis, (2e) has the S-structure in (7).

(7) \*Mary believed<sub>i</sub> t<sub>i</sub> [<sub>CP</sub> C [<sub>IP</sub> Peter finished school] and Bill t<sub>i</sub> [<sub>CP</sub> C [<sub>IP</sub> Peter got a job]]

Since the verb and the null C in the second conjunct are not adjacent, the affixation fails and the construction is ruled out as a Stranded Affix Filter violation. If we do not adopt Johnson's analysis and assume that gapping involves PF V-deletion and that the verb and the null C are linearly adjacent prior to the gapping, (2e) can be accounted for if we assume that gapping, which is now understood in terms of PF deletion, precedes PF Merger in PF.<sup>6</sup> Under this analysis, (2e) also contains a stranded C-affix. The data in (2), and the contrast between (2) and (3), thus receive a principled account under the PF Merger analysis. Furthermore, this is accomplished without appealing to government, a conceptually appealing result.

## 2.2. Null C (not) licensed by a noun

While the PF Merger analysis of the distribution of the null C rather straightforwardly accounts for the paradigm in (2), it faces potential problems when extended to constructions where there is no verb that could host the null C. Consider, for example, the following examples, where a CP functions as a complement of a noun. As is well-known, a null C is disallowed in this environment.<sup>7</sup>

---

intonational phrasing below.

<sup>5</sup>Klaus Abels (personal communication) points out that there is an alternative derivation of (2d) that must also be excluded. Suppose that only IP is the target of RNR, with the null C 'left behind'. In both conjuncts, C should then be able to merge with the V. Bošković and Lasnik (2003) suggest that this derivation is ruled out independently of any affixal requirements. Recall that on the PF deletion analysis of RNR, the missing material in the first conjunct is a target of an ellipsis operation. But declarative C (unlike interrogative C in sluicing constructions) never licenses ellipsis of its complement IP even when something passes through its SpecCP, as the following example from Bošković (1997) shows:

(i) \*John met someone but I don't know who<sub>i</sub> Peter said [<sub>CP</sub> t<sub>i</sub> [<sub>C</sub> C [<sub>IP</sub> e]]]

Note that example (ii) is then good only on the derivation where the whole CP is elided.

(ii) Who did Bill believe [<sub>CP</sub> t<sub>i</sub> [<sub>C</sub> would murder Peter]], and Mary claim, would murder Peter?

<sup>6</sup> Under this analysis gapping involves both V- and I-deletion. This is clear in examples like *Mary will kiss John and Jane Bill*.

<sup>7</sup>I will discuss here only finite complements of nouns. For discussion of infinitival complements of nouns, see Bošković (1997), where it is shown that the question of licensing a null C does not arise in such constructions due to

- (8) a. I heard about the proof [<sub>CP</sub> that Mary did it]  
 b. \*I heard about the proof [<sub>CP</sub> C Mary did it]
- (9) a. I heard about the fact [<sub>CP</sub> that Mary did it]  
 b. \*I heard about the fact [<sub>CP</sub> C Mary did it]

To account for (8)b and (9)b, Bošković and Lasnik (2003) suggest that the null C cannot take just any lexical head as a host. More precisely, it can be hosted only by [+V] elements.<sup>8</sup> This assumption, which is rooted in the well-established fact that affixes have subcategorization requirements, rules out the possibility of nouns taking a null C complement, while still allowing the null C to head a complement of a verb or an adjective. The ungrammaticality of (8)b and (9)b is then accounted for.

However, complications arise once we turn to the null C in relative clauses.<sup>9</sup> As illustrated in (10), a null C can occur in a relative clause, but only if it is adjacent to the head noun.

- (10) a. The child [<sub>CP</sub> Op<sub>i</sub> C [<sub>IP</sub> Alexis was waiting for t<sub>i</sub>]] was lost.  
 b. \*The child was lost [<sub>CP</sub> Op<sub>i</sub> C [<sub>IP</sub> Alexis was waiting for t<sub>i</sub>]]  
 c. The child [<sub>CP</sub> Op<sub>i</sub> that Alexis was waiting for t<sub>i</sub>] was lost.  
 d. The child was lost [<sub>CP</sub> Op<sub>i</sub> that Alexis was waiting for t<sub>i</sub>]

As noted above, the ungrammaticality of (10)b is problematic for the ECP analysis, given that relative clauses are barriers to government. As for the PF Merger analysis, here's Bošković and Lasnik's account of the data in question: It is standardly assumed that relative clauses and complement clauses are not headed by the same C (see Lasnik and Saito 1992 and Rizzi 1990, among others.) As a result, we would not necessarily expect the null C in relative clauses to have the same lexical specification with respect to affixhood as the C in complement clauses. Bošković and Lasnik therefore suggest that the null C heading relative clauses can be hosted by a noun. This gives us an account of (10)a-b. (10)b is ruled out because the null C cannot merge with the head noun of the relative clause because the two are not adjacent in PF. (Notice that because of the ungrammaticality of this construction, we cannot simply say that the null C in relative clauses is not an affix.) Adjacency is satisfied in the grammatical (10)a. (Note that phonologically null elements do not block PF Merger.) The fact that the relative clause in (10)a is a barrier to government, problematic for the ECP analysis, is irrelevant under the PF Merger analysis.

Regarding constructions like (11), Bošković and Lasnik offer two suggestions: either the null C of such relatives is not an affix, or the null C is an affix but it can be hosted by the relative wh-element. Both suggestions can be easily extended to the null C in (12).

---

interfering factors.

<sup>8</sup>The acceptability of adjectival constructions like *I'm afraid he left* indicates that the null C is hosted by [+V] elements, given that adjectives are specified as [+V, +N].

<sup>9</sup>Note that since I will discuss only restrictive relative clauses, I will use the term relative clause to refer only to restrictive relatives. The reader should bear this in mind regarding section 3.1., where intonational properties of relative clauses are discussed. (It is well-known that non-restrictive relatives must be parsed as separate intonational phrases, in contrast to restrictive relative clauses discussed in section 3.1.)

- (11) the woman [<sub>CP</sub> who<sub>i</sub> C [<sub>IP</sub> John likes t<sub>i</sub>]]  
 (12) [<sub>CP</sub> what<sub>i</sub> C [<sub>IP</sub> John likes t<sub>i</sub>]] is apples.

Consider finally the null C in base-extrapolated clauses such as (13).

- (13) a. It seems [<sub>CP</sub> C [<sub>IP</sub> John likes Mary]]  
 b. It seems to me [<sub>CP</sub> C [<sub>IP</sub> John likes Mary]]  
 c. It surprised me [<sub>CP</sub> C [<sub>IP</sub> Mary left]]  
 d. It is likely [<sub>CP</sub> C [<sub>IP</sub> Mary will read the book]]

Bošković and Lasnik suggest that base-extrapolated clauses are headed by a null C that is lexically specified as an affix on a lexical category (see Bošković and Lasnik for a suggestion how the selection of a distinct complementizer in base-extrapolated clauses can be achieved). As a result, the heads immediately preceding the null C in (13) can all host it.

A question arises with respect to constructions like (14) as to why the nominal head within the matrix adjunct (*time*) cannot host the null C.

- (14) \*It seemed at that time C John had left.

Notice that even when the extrapolated clause is headed by the overt C, as in *It seemed at that time that John left*, the extrapolated clause in this type of construction is preceded by a pause, which indicates that an intonational phrase boundary intervenes between the extrapolated clause and the adjunct. Given that intonational phrase boundaries block PF Merger, the null C then cannot affix to *time* in (14). The analysis can be straightforwardly extended to (15).

- (15) \*The child was lost yesterday [<sub>CP</sub> Op<sub>i</sub> C [<sub>IP</sub> Alexis was waiting for t<sub>i</sub>]]

This analysis leads us to assume that the null C is parsed into the same intonational phrase as the matrix verb in constructions like *It seems C John likes Mary*. In fact, it has been proposed in the literature on prosodic phrasing that a verb and the complementizer heading its complement can be parsed into the same intonational phrase (see An 2004, Schütze 1994:90-91 and references therein). Notice also that no pause has to precede the complementizer in *It seems that John likes Mary*, in contrast to *It seemed at that time that John liked Mary*. (It is likely that the two constructions also differ in that the clause moves from its  $\theta$ -position only in the second construction. The prosodic difference noted above may then be a reflex of a syntactic difference.)

The analysis presented in Bošković and Lasnik (2003) accounts for all the data discussed above. However, a problematic aspect of this analysis is the necessity to posit several distinct Cs which have different subcategorization properties with respect to affixhood, i.e. they differ regarding what kind of a host they take. The analysis would be strengthened if all the data discussed above could be accounted for by positing a single affix C that always takes the same kind of a host. Certain generalizations formulated in An (2004) in fact make this possible. In the next section, I will summarize the relevant results of An (2004) and then show how they enable us to simplify the PF Merger analysis of Bošković and Lasnik (2003).

### 3. Modifying the PF Merger analysis

An (2004) (see also Franks in press) observes that in all the data in (2), the null C clause must be parsed as a separate intonational phrase. Since the null C is clause initial, no host is then available for the C in front of it within its intonational phrase. Recall also that intonational phrases block PF Merger, which means that the null C cannot search for a host outside of its CP in (2). As a result, we do not need to require that the null C take a verbal host to account for the data in (2). We can simply assume that the null C is an enclitic which can take any element preceding it as its host, just like, for example, Serbian/Croatian/Bosnian (SCB) enclitics. This is in essence what Bošković and Lasnik assume regarding the null C heading the base-extraposed clauses in (13). The suggestion made here is to treat the null C in (2) in the same way, which means that the null C is simply an enclitic which does not specify the kind of a host it will take. The analysis can also be extended to the null C in (11) and (12): the enclitic null C would then be hosted by the *wh*-element.<sup>10</sup> The main reason why

---

<sup>10</sup>Note that I am adopting here the conception of PF Merger argued for in Bošković (2001), on which PF Merger simply puts together two adjacent elements but does not have the power to change word order, i.e. re-order the elements in question. There are analyses which assume that an enclitic that cannot find a host to its left would undergo PF movement to the right looking for a host, more precisely, it would move after the first stressed element to its right, the mechanism referred to as Prosodic Inversion (PI) by Halpern (1995). Under the PI analysis, the null C would move in PF following the subject in (2), which could then serve as its host. There are, however, a number of arguments against PI in the literature. Halpern originally formulated PI to account for clitic placement in South Slavic. In particular, according to Halpern, PI is necessary to accomplish clitic placement in SCB examples like (i), where a clitic appears to break up a phrasal constituent. (Clitics are given in italics in (i-vi).)

- (i) Taj *je* čovjek volio Aidu.  
that is man loved Aida  
'That man loved Aida.'

Halpern assumes the clitic is sentence initial in the output of the syntax in (i). PI then takes place in the phonology, placing the clitic after the first stressed word, namely *taj*.

- (ii) a. Syntax: *je* taj čovjek volio Aidu.  
b. PF: Taj *je* čovjek volio Aidu.

Bošković (2001), Progovac (1996), Wilder and Čavar (1994), however, point out that it is not necessary to appeal to PI to account for (i) since quite independently of PI, SC determiners can be separated from nouns in the syntax. This is illustrated by (iia-b), which cannot be derived by PI and must involve syntactic movement (left-branch extraction) of the determiner. In other words, the authors in question argue that the phrase preceding the clitic in (i) is located in front of the clitic at SS after undergoing left-branch extraction (see Bošković 2005 for discussion of left-branch extraction in SCB).

- (iii) a. Kojeg/Tog<sub>i</sub> Aida voli t<sub>i</sub> čovjeka  
which/that Aida loves man  
'Which man does Aida love?'  
'Aida loves that man.'  
b. Kojeg/Tog<sub>i</sub> *je* Aida voljela t<sub>i</sub> čovjeka  
which/that is Aida loved man  
'Which man did Aida love?'

Bošković and Lasnik (2003) did not pursue the uniform null-C-as-an-enclitic analysis is the ungrammaticality of constructions like (8)b and (9)b. As discussed above, Bošković and Lasnik account for these constructions by requiring that the null C in the context in question can be hosted only by a [+V] element. This is in contrast to the null C in relative clauses like (10)a, which, as discussed above, can take the relative head as its host, hence does not have to be hosted by a [+V] element. Certain data discussed by An (2004) make it possible to remove this obstacle to the uniform C-as-an-enclitic analysis.<sup>11</sup>

---

‘Aida loved that man.’

Consider now (iv). In (iva) we have an element that apparently cannot undergo syntactic movement. As shown in (ivb), although stressed, the element in question also cannot precede clitics.

- (iv) a. \**Prema*<sub>i</sub> *Milan* *i* *Nermin* *idu* *t*<sub>i</sub> *Mileni*.  
 toward Milan.nom and Nermin.nom walk Milena.dat  
 ‘Milan and Nermin are walking toward Milena.’
- b. \**Prema* *su* *Mileni* *Milan* *i* *Nermin* *išli*.  
 toward are Milena.dat Milan.nom and Nermin.nom walked  
 ‘Toward Milena Milan and Nermin walked.’
- c. *Prema* *Mileni* *su* *Milan* *i* *Nermin* *išli*.  
 d. *Milan* *i* *Nermin* *su* *išli* *prema* *Mileni*.

Under the PI analysis, the ungrammaticality of (ivb) is surprising. It should be possible for the syntax to provide the following output to PF:

- (v) *su* *prema* *Mileni* *Milan* *i* *Nermin* *išli*.

PI should then apply to (v) placing the clitic after *prema*, thus incorrectly deriving (ivb).

Based on the data of the kind discussed above, Bošković (2001), Progovac (1996), and Wilder and Čavar (1994) argue that only elements that can be base-generated in front of clitics or can be independently shown to be able to undergo syntactic movement in front of clitics can precede SCB clitics within their clause, a generalization that provides a strong argument against PI.

English in fact also raises a problem for PI (cf. Bošković 2001). Assuming that contracted auxiliaries in English are enclitics, we would expect PI to apply to a syntactic output such as (via), an undesirable result (see (vib)).

- (vi) a. SS: ’s her mother going there?  
 b. PF: \*Her’s mother going there?

In light of the data discussed above I assume that the mechanism of PI does not exist in natural language, hence will not be adopting it in this work (the reader is referred to Bošković 2001 for additional arguments against PI). In fact, the current analysis of the distribution of the null C in English may be interpreted as another argument against PI, since if PI were to exist, the null C could undergo PI in (2), which would place it following the subject, thus incorrectly predicting the examples to be acceptable. At any rate, the reader should bear in mind that under the conception of PF Merger adopted here, argued for in Bošković (2001), PF Merger simply puts together two adjacent elements, but cannot change word order.

<sup>11</sup>The reader is also referred to An (2004) for a very interesting alternative analysis, which also accounts for the distribution of the null C in English by appealing to PF mechanisms. Note also that I am putting aside here the contexts where a null C is involved in successive cyclic movement, which were also discussed in Bošković and Lasnik (2003).



### 3.1. Intonational phrasing of nominal complements and restrictive relative clauses

An (2004) provides convincing evidence that clausal complements of nouns, but not relative clauses, crosslinguistically *must* be parsed as separate intonational phrases.<sup>12</sup> In this section I will summarize several of An's arguments.

Richards (1999) shows that Tagalog has an affixal (more precisely, suffixal) complementizer *-ng* as well as a non-affixal complementizer *na*.<sup>13</sup> Interestingly, only the non-affixal complementizer is allowed in clausal complements of nouns. In contrast, the affixal complementizer is allowed in relative clauses. (The Tagalog data below are due to Richards 1999. T/A are topic/actor markers.)

- (16) a. ang balita [**na** kinain ni Juan ang tambakol]  
T news that ate A Juan T mackerel  
'the news that Juan ate the mackerel'  
b. \*ang balita [**-ng** kinain ni Juan ang tambakol]  
T news that ate A Juan T mackerel
- (17) ang balita [**-ng** dinala ni Juan]  
T news that brought A Juan  
'the news that Juan brought'

An interprets these data as indicating that clausal complements of nouns, but not relative clauses, must be parsed as separate intonational phrases. As a result, the intonational phrase boundary that corresponds to the edge of the CP headed by *-ng* blocks affixation of *-ng* to the preceding nominal in the nominal complement example.

It is worth noting here that the affixal complementizer can occur in the clausal complement of a verb, which means that the clausal complement of a verb does not have to be parsed as a separate intonational phrase.<sup>14</sup>

---

<sup>12</sup>An suggests that the reason why relative clauses have a closer relationship to their head noun than clausal complements with respect to intonational phrasing is because relative clauses are syntactically dependent on the head noun. (There is a gap inside the relative clause that corresponds to the head noun, which is not the case with clausal complements. In fact, a number of authors have argued that the head noun of a relative clause raises from inside the relative clause, see, for example, Vergnaud 1974, Kayne 1994, and Bianchi 2000). The suggestion is plausible given that intonational phrasing often reflects syntactic properties.

<sup>13</sup>The two complementizers thus behave in exactly the same way in the relevant respect as the null C and the complementizer *that* in English, the suffixal complementizer *-ng* being the counterpart of the null C (under the PF Merger analysis), and the non-affixal complementizer *na* the counterpart of *that*. The nice thing about Tagalog, observed by Richards, is that this language clearly shows the presence of an affixal complementizer.

<sup>14</sup>Note that both relative clauses and verbal complements also allow the non-affixal complementizer. It is also worth noting that An shows that relative clauses and clausal complements of verbs can actually be parsed as separate intonational phrases (based partly on evidence from SCB clitic placement); in other words, they are optionally parsed as separate intonational phrases. This is in contrast to clausal complements of nouns, which must be parsed as separate intonational phrases. Note that the option on which a relative clause or a clausal complement of a verb is parsed as a separate intonational phrase is simply irrelevant to our current concerns. What is important for us is the availability of the option on which the two are not parsed as separate intonational phrases, which is unavailable for clausal complements of nouns.

- (18) Hindi niya sinabi [-ng kinain niya ang tambakol]  
 not he said that ate he T mackerel  
 ‘He didn’t say that he ate the mackerel.’

An (2004) shows that Brazilian Portuguese provides additional evidence that complements of nouns, but not relative clauses, must be parsed as separate intonational phrases. Guimarães (1999) observes that a proclitic article in Brazilian Portuguese cannot cliticize across a CP boundary if the CP functions as a complement of a noun. (The Brazilian Portuguese data below are due to Guimarães 1999. The noun following the relevant article, given in bold, is gapped in (19)-(20).)

- (19) \*Eu nao ligo para o fato de que estou doente, mas sim para  
 I not care for the fact of that am sick but yes for  
**o fato** [<sub>CP</sub> de que minha namorada me abandonou]  
 the of that my girlfriend me abandoned  
 ‘I don’t care about the fact that I am sick, but I care about the fact that my girlfriend left me alone.’

An (2004) notes that the ungrammaticality of (19) can be straightforwardly accounted for if the nominal complement in (19) must be parsed as a separate intonational phrase under the assumption that an intonational phrase boundary blocks cliticization. Interestingly, a proclitic article can cliticize across a CP boundary when the CP is a relative clause, which An interprets as indicating that relative clauses do not have to be parsed as separate intonational phrases, in contrast to clausal complements of nouns.<sup>15</sup>

- (20) Eu já encontrei o livro que ela me deu, mas ainda estou procurando  
 I already found the book that she to+me gave but still am looking+for  
**o livro** [<sub>CP</sub> que você me deu]  
 the that you to+me gave  
 ‘I have already found the book that she gave me, but I’m still looking for the one that you gave me.’

Additional evidence that clausal complements of nouns must be parsed as separate intonational phrases is provided by clitic placement in SCB. SCB has a set of pronominal clitics which, being enclitics, cannot be initial within their intonational phrase, since such a placement would prevent them from encliticizing to their host. In light of this, consider the data in (21)-(22), discussed in Bošković (2001), where a noun takes an infinitival complement:

- (21) a. Želja knjigu joj dati bila je velika.  
 desire book her.dat to-give been is great  
 ‘The desire to give her a book was great.’

---

<sup>15</sup>An also observes that Stowell’s (1981) claim that clausal complements of nouns should be analyzed as appositive modifiers may also provide evidence that clausal complements of nouns are separate intonational phrases, given that appositive modifiers must always be parsed as separate intonational phrases.



following data. (The Italian data below are taken from Nespor and Vogel 1986. Bold-faced letters indicate that the segment in question is affected by GT.)

- (26) Gli uccelli costruiscono i nidi.  
 ‘Birds construct nests.’
- (27) Certi tipi di uccelli trovati solo in Australia costruiscono dei nidi **complicatissimi** a due piani.  
 ‘Certain types of birds found only in Australia construct very complicated two-story nests.’

Like the underlined segment in (26), the underlined segment in (27) is in the environment for GT – it is [-cont] and occurs between two vowels. Still, in contrast to the underlined segment in (26), the underlined segment in (27) cannot undergo GT. Recall now that heavy elements must be parsed as separate intonational phrases. This is also the case with the subject in (27). As a result, there is an intonational phrase boundary between *Australia* and *costruiscono*, which prevents GT from applying.

Significantly, GT can take place across a relative clause boundary.

- (28) Questo è il gatto [**che** ha mangiato il topo [**che** ha mangiato il formaggio]]  
 this is the cat that has eaten the mouse that has eaten the cheese  
 ‘This is the cat that ate the mouse that ate the cheese.’

Since intonational phrase boundaries block GT, the fact that GT is allowed in (28) suggests that relative clauses do not have to be parsed as separate intonational phrases.

Turning now to Korean obstruent voicing (OV), the relevant rule is given in (29), and its application is illustrated in (30).

- (29) [-cont, -asp, -tense] → [+voice] / [+voice] \_\_ [+voice]
- (30) kulim-ul **p**ota → kurimul **b**oda  
 picture-Acc see  
 ‘To look at the picture’

Based on data discussed by Cho (1990), An (2004) claims that OV is blocked by intonational phrase boundaries. Significantly, as observed by Cho (1990), relative clause boundaries do not block OV, which then means that relative clauses do not have to be parsed as separate intonational phrases.

- (31) a. [ku-ka mek-nun] **p**ap → [ku-ga mengnun] **b**ap  
 he-Nom eat-Mod rice  
 ‘The rice he is eating.’
- b. [us-nun] **k**oyangi → [us-nun] **g**oyangi  
 smile-Mod cat  
 ‘A cat that is smiling.’

Given the data discussed in this section, I conclude with An (2004) that clausal complements of nouns but not relative clauses must be parsed as separate intonational phrases.

### 3.2. Back to PF Merger

Returning now to the PF Merger analysis of the distribution of the null C in English, given that the embedded CP in (8)-(9) must be parsed as a separate intonational phrase, we no longer need to require the null C in these examples to be lexically specified as a verbal affix to account for the ungrammaticality of (8)b and (9)b. Simply assuming that the null C is an enclitic will suffice here: the nominal preceding the null C still cannot serve as a host for the null C given that it is separated from the null C by an intonational phrase boundary. The problem does not arise with relative clauses headed by a null C, such as the one in (10)a, since there, no intonational phrase boundary intervenes between the null C and the preceding nominal, so that the null C can encliticize to the nominal in question. I conclude therefore that all the data discussed above can be accounted for if the null C is simply treated as an enclitic, which greatly simplifies Bošković and Lasnik's PF Merger account of the distribution of the null C in English.

### References

- An, Duk-Ho. 2004. Clauses in non-canonical positions in PF. Ms., University of Connecticut, Storrs.
- Bianchi, Valentina. 2000. The raising analysis of relative clauses: a reply to Borsley. *Linguistic Inquiry* 31: 123-140.
- Bobaljik, Jonathan. 1995. Morphosyntax: The syntax of verbal inflection. Doctoral dissertation, MIT, Cambridge, Mass.
- Bošković, Željko. 1997. *The syntax of nonfinite complementation: An economy approach*. Cambridge, Mass.: MIT Press.
- Bošković, Željko. 2001. *On the nature of the syntax-phonology interface: Cliticization and related phenomena*. Amsterdam: Elsevier Science.
- Bošković, Željko. 2004a. PF Merger in stylistic fronting and object shift. In *Minimality effects in syntax*, ed. Arthur Stepanov, Gisbert Fanselow, and Ralf Vogel, 37-71. Berlin: de Gruyter.
- Bošković, Željko. 2004b. Two notes on right node raising. In *University of Connecticut Working Papers in Linguistics* 12, 13-24. Department of Linguistics, University of Connecticut, Storrs. [Distributed by MIT Working Papers in Linguistics, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.]
- Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59: 1-45.
- Bošković, Željko, and Howard Lasnik. 2003. On the distribution of null complementizers. *Linguistic Inquiry* 34: 527-546.
- Cho, Young-mee Yu. 1990. Syntax and phrasing in Korean. In *The phonology-syntax connection*, ed. Sharon Inkelas and Draga Zec, 47-62. Chicago, Ill.: University of Chicago Press.
- Chomsky, Noam. 1957. *Syntactic structures*. The Hague: Mouton.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, Mass.: MIT Press.
- Chomsky, Noam, and Howard Lasnik. 1993. The theory of principles and parameters. In *Syntax: An international handbook of contemporary research*, Vol. 1, ed. Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld, and Theo Vennemann, 506-569. Berlin: Walter de Gruyter.
- Franks, Steven. in press. What is *that*? *Indiana University Working Papers in Linguistics*.
- Guimarães, Maximiliano. 1998. PF reflexes of phase boundaries. Contribution to the Minimalist

- Issues Chat Room, University of Maryland.
- Halle, Morris, and Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, ed. Kenneth Hale and Samuel Jay Keyser, 111-176. Cambridge, Mass.: MIT Press.
- Halpern, Aaron Lars. 1995. *On the placement and morphology of clitics*. Stanford, Calif.: CSLI.
- Johnson, Kyle, 1994. Bridging the gap. Ms., University of Massachusetts, Amherst.
- Kayne, Richard. 1981. ECP extensions. *Linguistic Inquiry* 12: 93-133.
- Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, Mass.: MIT Press.
- Lasnik, Howard. 1995. Verbal morphology: *Syntactic structures* meets the Minimalist Program. In *Evolution and revolution in linguistic theory: Essays in honor of Carlos Otero*, ed. Héctor Campos and Paula Kempchinsky, 251-275. Washington, D. C.: Georgetown University Press.
- Lasnik, Howard, and Mamoru Saito. 1992. *Move Alpha: Conditions on its application and output*. Cambridge, Mass.: MIT Press.
- Maling, Joan. 1972. On gapping and the order of constituents. *Linguistic Inquiry* 3: 101-108.
- Nespor, Marina, and Irene Vogel. 1986. *Prosodic phonology*. Dordrecht: Foris.
- Pesetsky, David. 1992. Zero syntax Vol. 2. Ms., MIT, Cambridge, Mass.
- Postal, Paul M. 1974. *On raising: One rule of English grammar and its theoretical implications*. Cambridge, Mass.: MIT Press.
- Progovac, Ljiljana. 1996. Clitics in Serbian/Croatian: Comp as the second position. In *Approaching second: Second position clitics and related phenomena*, ed. Aaron Halpern and Arnold Zwicky, 411-428. Stanford, Calif.: CSLI Publications.
- Radanović-Kocić, Vesna. 1988. *The grammar of Serbo-Croatian clitics: A synchronic and diachronic perspective*. Doctoral dissertation, University of Illinois, Urbana-Champaign.
- Radanović-Kocić, Vesna. 1996. Placement of Serbo-Croatian clitics: A prosodic approach. In *Approaching second: Second position clitics and related phenomena*, ed. Aaron Halpern and Arnold Zwicky, 429-445. Stanford, Calif.: CSLI Publications.
- Richards, Norvin. 1999. Complementizer cliticization in Tagalog and English. In *Proceedings of The Sixth Meeting of the Austronesian Formal Linguistics Association (AFLA): Toronto Working Papers in Linguistics* 16, 297-312.
- Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge, Mass.: MIT Press.
- Ross, John Robert. 1967/1986. *Infinite Syntax*. Norwood: Ablex Publishing.
- Schütze, Carson. 1994. Serbo-Croatian second position clitic placement and the phonology-syntax interface. In *MIT Working Papers in Linguistics* 21, 373-473. MITWPL, Department of Linguistics and Philosophy, MIT, Cambridge, Mass.
- Stowell, Timothy. 1981. Origins of phrase structure. Doctoral dissertation, MIT, Cambridge, Mass.
- Vergnaud, Jean-Roger. 1974. French relative clauses. Doctoral dissertation, MIT, Cambridge, Mass.
- Wexler, Kenneth, and Peter Culicover. 1980. *Formal principles of language acquisition*. Cambridge, Mass.: MIT Press.
- Wilder, Chris, and Damir Čavar. 1994. Long head movement? Verb movement and cliticization in Croatian. *Lingua* 93: 1-58.
- Zec, Draga, and Sharon Inkelas. 1990. Prosodically constrained syntax. In *The phonology-syntax connection*, ed. Sharon Inkelas and Draga Zec, 365-378. Chicago, Ill.: University of Chicago Press.