EMBEDDED IMPERATIVES IN CONTROL

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The present paper argues that certain infinitival complements of English control constructions are embedded imperatives. These complements and root imperatives have identical syntactic structures and featural configurations, with only one exception: while root imperatives are anchored to an external Logophoric Center, embedded imperatives are anchored to an internal Logophoric Center (Bianchi (2003)). This brings about interpretative and morphological differences between them. There are significant advantages in treating control complements, particularly Landau’s (2000) Partial Control complements, as embedded imperatives. Under this view, partial control, implicit control and split control become naturally accountable.*

Keywords: embedded imperatives, partial control, implicit control, split control, logophoricity

1. Introduction

It all goes back to Postal (1970a), one of the seminal studies on the topic of complement control. He made an intriguing observation: infinitival complements of certain control predicates involve a non-declarative force. For example, the complement in (1a) describes the linguistic performance of an
imperative, while that in (1b) a promise.

(1) a. Harry ordered Betty to leave.
   b. Harry promised Betty to leave.  (Postal (1970a: 495))

To Postal, these control constructions are the indirect discourse versions of the following parallel direct discourse constructions:

(2) a. (You) leave, Harry ordered Betty.
   b. I will leave, Harry said to/promised Betty.
      (Postal (1970a: 496))

Such an observation led Postal to a generalization that if the direct discourse subject is second person as in (2a), its parallel control construction exhibits object control ((1a)); if the direct discourse subject is first person as in (2b), subject control obtains in its control counterpart ((1b)). Of course, Postal made the generalization in an abstract sense. He presumably did not intend to propose that control infinitival complements are in fact embedded imperatives or promissives. However, after decades of research in this area, it has now become ever more conceivable that complement control actually does involve imperative or promissive embedding. The goals of the present paper are threefold:

(i) To provide evidence that imperatives and other related force types are embedded under control predicates in languages including Japanese and Korean (sections 3 and 4);

(ii) To illustrate that certain infinitival complements of English control constructions are also embedded imperatives (sections 5 through 7); and

(iii) To demonstrate that the view expressed in (ii) has significant advantages in accounting for long-standing puzzles in the study of control including partial, implicit and split control (section 8).

There is a broader aim behind these goals. It is to illustrate that at least some infinitives are much richer and presumably more independent from the matrix clause than is often claimed. I will argue that they have their own person properties, just like Stowell (1982) and Wurmbrand (2003, 2014) argue that infinitives have their own tense or temporal properties. Wurmbrand (2014) specifically argues that the future orientation of the infinitival complement of, say decide, does not come from the lexical semantics of decide, but it is a syntactic consequence of a relevant temporal projection (wollP) within the infinitive. Local selection by matrix predicates like decide ensures that the infinitival complements have the appropriate tense/temporal properties. Similarly, I contend that certain infinitives have their own person properties syntactically projected within their struc-
ture. It has been argued, mostly in semantic approaches but also in various syntactic approaches to control, that the interpretation of the null subject is encoded in the lexical semantics of control predicates (e.g. Jackendoff (1972), Williams (1980), Farkas (1988), Landau (2000), Jackendoff and Culicover (2003)). I will present a different view. Control and controller determination is brought about by syntactically projected person properties (on Rizzi’s (1997) Fin(iteness) head serving as a deictic center as discussed in Bianchi (2003)) within certain types of infinitives, which are in turn selected by control predicates. Of course, the lexical semantics of the predicates becomes crucial in this selection. However, what the predicates select is not the controller; they locally select their clausal argument with specific tense and person properties.

2. Background: Partial Control vs. Exhaustive Control

Since the turn of the century, Landau (2000, 2003, 2004, 2006, 2008) has been arguing that complement control divides into two types: Partial Control (PC) and Exhaustive Control (EC). In PC, the relationship between the null complement subject PRO and its controller does not have to be identical: the reference of the controller only has to be a subset (not necessarily a proper subset) of that of PRO. EC, on the other hand, requires strict identity between the two. The contrast is clear in the following examples, adapted from Landau (2000: 54, 2013: 157).

(3) PC:
   a. The chair preferred [PRO to gather at 6].
   b. Mary recommended to John [PRO to convene without her].
   c. Mary wondered [whether PRO to apply together for the grant].

(4) EC:
   a. *John managed [PRO to gather at 6].
   b. *Mary forced John [PRO to convene without her].
   c. *Mary is able [PRO to apply together for the grant].

In the PC examples in (3), the predicates in the infinitival complements require a subject which is at least semantically plural, but the alleged controller is singular. The controller constitutes a subset of the reference of the null infinitival subject. Such a reading is impossible with EC predicates as in (4), leading to ungrammaticality. Importantly, PC constructions and partial control phenomena are two distinct notions. In PC constructions, partial control is always syntactically available, but a partial control reading
is not necessarily induced in every instance of PC. Thus in (5), adapted from Pearson (2013), both an exhaustive reading and a partial reading are available. That PC constructions have a partial reading option is what distinguishes them from EC constructions.

(5) Mary asked John, [PRO$_{i/+}$ to move the piano].

Landau’s (2000) original intention was to propose the PC/EC divide with respect to their tense properties. The infinitival complements in PC are *tensed* in that the matrix/embedded tense mismatches are allowed; whereas those in EC are *untensed*, disallowing such tense mismatches. Some predicates in the PC class include factive predicates such as *glad, hate, like* and *sad*; propositional predicates such as *assert, believe, say* and *think*; desiderative predicates such as *agree, decide, hope* and *promise*; and interrogative predicates such as *ask, find out, inquire* and *know*. The EC category includes implicatives such as *condescend, dare, force* and *manage*; aspectual predicates such as *begin, continue, finish* and *stop*; modals such as *have, is able, may* and *must*; and evaluative adjectives such as *bold, kind, rude* and *silly*.¹ Exactly where to draw a line between PC and EC remains controversial, but the notion that complement control splits into two types seems to be well accepted in the recent literature (Wurmbrand (2003), Grano (2012), Pearson (2013, 2015)).

Landau (2015) restates the divide from a new perspective: PC complements express attitudes whereas EC complements denote non-attitudes.² The contrast between PC and EC is made clearer than ever before. PC permits the whole set of phenomena that allow non-identity relations between a designated argument of the matrix clause and PRO: partial control, implicit control, split control and control shift. None of these phenomena are allowed in EC. In addition, a [−human] reading of PRO is possible in EC but impossible in PC; and a *de se* reading is not obligatory in EC but it is in PC. Presenting these facts, he successfully makes a case for the fundamental duality of complement control.

Note that non-identity relations allowed in PC do not imply that the in-

¹ See Landau (2000: 38) or Landau (2015: 6–7) for more detailed lists. The lists include predicates that do not occur with infinitival complements in English. His observation extends to multiple languages where the equivalents of these predicates exhibit control phenomena.

² Landau (2015) renames EC as predicative control and PC logophoric control. But the present paper will continue to call them EC and PC to avoid confusion. His list of predicates falling under each type remains the same.
interpretation of PRO is completely arbitrary. PRO always refers, at least partially, to a certain designated participant(s) in the matrix event (i.e. the reported event) as I will discuss. The PC phenomena of implicit, partial and split control do not fall under the traditional obligatory control. Nevertheless, the interpretation of PRO is still restricted, and thus they are distinct in nature from non-obligatory control. For this reason, Landau (2000 and subsequent works) subsumes PC under obligatory control. I follow his view on this.

The present article focuses on PC. In particular, it addresses the question of how such non-identity relations are syntactically made possible in PC. Landau’s (2015) proposal, logophoric anchoring, does not provide a clear solution to this issue (see section 8.1). My proposal accounts for this puzzle by drawing on the early insight of Postal (1970a) that some infinitival complements in control bear an independent force including the imperative.

Control phenomena are observed in a variety of constructions. We have control into adjuncts and control into subject clauses, extraposed or not, as well as control into complements. Some involve wh-infinitivals and non-wh-infinitivals. We also have control by nominals and control into nominals. My discussion focuses on a small set of phenomena: what constitutes a part of the verbal complement PC. However, my argument may be extended to some other constructions, as I will briefly discuss in section 8.6.

The present study basically builds on the classification of control by Landau (2000): complement control including wh-infinitival control falls under obligatory control, and there is a PC/EC divide within obligatory complement control. Such a classification is very useful in putting perplexing control phenomena into some perspective. However, what constitutes PC and EC is still under debate (e.g. Landau (2015) vs. Pearson (2015)). The definition of obligatory control varies by linguists, and this issue is still unsettled (e.g. Williams (1980) vs. Landau (2000)). What

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3 I have no specific accounts for EC at this moment. I temporarily assume that EC is not associated with an internal Logophoric Center, which plays a key role in PC as discussed below. EC predicates are often restructuring predicates in many languages (Wurmbrand (2003), Grano (2012)). This suggests that EC complements may lack an independent Fin and an independent logophoric center.

4 Landau assumes that the reference of PRO with a generic reading in wh-infinitivals includes a certain participant in the matrix event (Landau (2000: 38–43)). In this sense, wh-infinitival control falls under PC. I share his view on this, although I do not discuss this issue in this paper.
constitutes control and raising is also disputable (e.g. Hornstein (1999) vs. Landau (2003)). The present article does not directly discuss these issues. However, it will contribute to solving these questions by providing a view that certain control phenomena may constitute a natural class with the non-control phenomena of the imperative.\footnote{Ross’s (1970) performative hypothesis and my view share some essence, but there is a crucial difference. In my proposal, the embedded imperative subject is not referentially dependent on one of the higher arguments; and there is no higher clause for root imperatives.}

3. Imperatives and Related Forces

Before I move on to the discussion of embedded imperatives, let me introduce other force types semantically and syntactically very similar to imperatives: promissives and exhortatives. Portner (2004) introduces the notion of a To-Do List to formally describe the imperative sentential force. According to Portner, the imperative force has the function of adding a property to the To-Do List of the addressee. A To-Do List is a set of properties assigned to an individual participating in a conversation. Thus, for example, an imperative such as \textit{shut the door!} adds the property of shutting the door onto the To-Do List of the addressee. Portner (2004) and Zanuttini, Pak and Portner (2012) bring to light other sentential forces closely related to imperatives, namely promissives and exhortatives. All these forces bear the function of adding a property to the To-Do List of a designated participant(s) in a conversation: whereas imperatives add a property to the addressee’s To-Do List, promissives add it to the speaker’s To-Do List, and exhortatives to the To-Do List of both the speaker and the addressee. Syntactically, Zanuttini et al. argue that these forces project a special functional head, \textit{a Jussive head}, in the CP domain. The effects are relevant person restrictions imposed on the subject interpretation of these clauses as in (6).

\begin{itemize}
  \item Imperative subject: inclusive of the addressee(s), exclusive of the speaker(s)
  \item Promissive subject: inclusive of the speaker(s), exclusive of the addressee(s)
  \item Exhortative subject: inclusive of both the speaker(s) and the addressee(s)
\end{itemize}
The Jussive head is also morphologically realized in Korean. Observe (7):

(7) a. Cemsim-ul  sa-la.  (imperative)
lunch-Acc  buy-Imp
‘Buy lunch!’
b. Cemsim-ul  sa-ma.  (promissive)
lunch-Acc  buy-Prm
‘I will buy lunch.’
c. Cemsim-ul  sa-ca.  (exhortative)
lunch-Acc  buy-Exh
‘Let’s buy lunch.’  (Zanuttini et al. (2012: 1234))

Japanese sentence final particles such as -e/-ro, -(r)u, and -(y)oo occurring in imperatives, promissives and exhortatives respectively can also be analyzed as Jussive head realizations.

(8) a. Kyoo shukudai  yar-e.  (imperative)
today homework  do-Imp
‘Do your homework today!’
b. Kyoo shukudai  yar-u-yo.  (promissive)
today homework  do-Prm-Prt
‘I’ll do my homework today.’
c. Kyoo shukudai  yar-oo.  (exhortative)
today homework  do-Exh
‘Let’s do our homework today.’

The -(r)u particle in (8b) is standardly analyzed as expressing nonpast indicative, but I follow Matsuda (2015a) in assuming that it also serves a promissive function. The -(y)oo particle in (8c) is not only used in exhortatives; it also appears in intentives (Fujii (2006)). What the paradigm in (8) illustrates is that these particles minimally distinguish the morphological forms from one another, and they bring about the distinct interpretative restrictions on the subject.

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6 The imperative particle -e/-ro is realized as -e after a consonant-final stem and as -ro after a vowel-final stem; and the particle -(y)oo appears as -oo after a consonant-final stem and as -yoo after a vowel-final stem (Fujii (2006: 100)). Similarly, the particle -(r) u appears as -u when it follows a consonant-final stem and as -ru after a vowel-final stem. There are also some irregular verbs such as suru ‘do’ and kuru ‘come,’ with their imperative forms being siro and koi, and their exhortative/intentive forms siyoo and koyoo respectively.

7 This sentence sounds natural with the particle -yo. According to Endo (2007), the -yo particle “implies the speaker’s emphasis in giving a piece of information to the addressee” (p. 180).

Pak, Portner and Zanuttini (2004) present a detailed discussion on the similarities of these force types. For example, the Korean Jussive particles are incompatible with certain mood particles (e.g. -kvun, -ci) and with overt tense markers. Likewise, the above Japanese particles do not occur with the Epistemic-modals (e.g. -daroo) or with the past tense marker -ta (Inoue (1976), Ueda (2008)). All these forces only take actional predicates in the sense of Farkas (1988) and Jackendoff and Culicover (2003). Non-actional predicates such as the English resemble and be tall are not compatible with them.

Summarizing, the semantics and the syntactic behaviors of imperatives, promissives and exhortatives are very similar, the only differences being their person properties. I will treat these forces in a parallel way in the rest of the article.

There obviously remains a question as to why some languages like Korean and Japanese have morphologically realized promissives while other languages including English do not. It goes beyond the scope of this article to deal with this issue. However, even in languages that lack morphologically realized root promissives, embedded promissives may exist.

4. Embedded Imperatives in Japanese and Korean

Consider the following examples from Postal (1970a) in (9) repeating (1).

(9)  
a. Harry ordered Betty [to leave].

b. Harry promised Betty [to leave].

Postal suggested that the infinitival complement in (9a) expresses the performance of an imperative and (9b) a promissive. In fact, this early insight is well-supported by the following Japanese data, in which the embedded verbs take the forms used in root imperatives and promissives: the complement embedded under the predicate equivalent of the English order appears with a verb in an imperative form ((10a)); and under the predicate equivalent of promise in a promissive form ((10b)). I add an embedded exhortative in ((10c)).

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8 Judgments on (in)compatibility of the Japanese promissive -(r)u and Epistemic-modals like -daroo are not very straightforward, since the -(r)u particle can also be used as the indicative present marker. What I can say at this point is that when -(r)u is used as a promissive, it cannot occur with a particle like -daroo. More needs to be said about this in future research.
(10) a. Ami-wa musuko-ni [shukudai-o yar-e-to]  
   Ami-Top son-Dat [homework-Acc do-Imp-Cto]  
   sijisi-ta.  
   order-Past  
   ‘Ami ordered her son to do his homework.’  
b. Taiki-wa hahaoya-ni [shukudai-o yar-u-to]  
   Taiki-Top mother-Dat [homework-Acc do-Prm-Cto]  
   yakusokusi-ta.  
   promise-Past  
   ‘Taiki promised his mother to do his homework.’  
c. Taiki-wa Eita-ni [isshoni shukudai-o yar-oo-to]  
   Taiki-Top Eita-Dat [together homework-Acc do-Exh-Cto]  
   sasot-ta.  
   ask-Past  
   ‘Taiki asked Eita to do their homework together.’

First, I illustrate that the data like the above truly involve embedding, i.e. indirect discourse, not direct quotations. In fact, the Japanese complementizer to appears both in the complement of direct and indirect speech; the examples in (10) actually can involve direct quotations. The issue here is whether they may alternatively give rise to an indirect speech reading. If we can prove that the embedded clauses are grammatically transparent in that they allow i) wh-phrases taking a matrix scope; and ii) spatial and person deixis evaluated with respect to the reporting event context (not to the original utterance event context), it stands as evidence for such alter-

Fujii (2006) presents similar data, which he tries to explain under the Movement Theory of Control.  

The predicate and the types of complements it selects are not in one-to-one relationship as in Grimshaw (1979). For instance, not only does the predicate sijisuru ‘order’ select an embedded imperative and a direct quotation, it also cooccurs with a -yooni clause as in (i) as mentioned by an anonymous reviewer. I consider a -yooni clause to be a subjunctive in line with Uchibori (2000).  

(i) Ami-wa musuko-ni [shukudai-o yar-u-yooni] sijisi-ta.  
   Ami-Top son-Dat [homework-Acc do-Nonpast-Cyooni] order-Past  
   ‘Ami ordered her son that he should do his homework.’  

I assume that subjunctive clauses with -yooni are semantically different from imperatives in that the former quantify over worlds while the latter quantify over individuals (Portner (2004), Kempchinsky (2009)); they exhibit somewhat similar but different person restrictions on subject interpretation, and have distinct syntactic structures. I defer to future works systematic comparisons between them. In (i), the -(r)u particle can be analyzed as a nonpast marker, not a promissive marker. It serves multiple functions.
natives. These tests are adapted from Kuno (1988), Oshima (2006) and Crnič and Trinh (2009). I only show data for embedded imperatives, but similar structures are also possible for embedded promissives and exhortatives. (11) illustrates that a *wh*-phrase with a matrix scope is possible.

(11) Ami-wa musuko-ni [nani-o yar-e-to] sijisi-ta no?
    Ami-Top son-Dat [what-Acc do-Imp-C∞] order-Past Q
   ‘What did Ami order her son to do?’

The examples in (12) reveal that a DP with a demonstrative such as *sono hon* ‘that book’ can felicitously occur in the complement of an indirect speech (12b), which reports the original speech of someone who has actually uttered the book title, say, *The Old Man and the Sea* ((12a)). Crucially, the one reporting (12b), Ami, is pointing at the book as she speaks.

(12) a. [Hiroshi said to his son, Taiki]
    Shumatu-ni Roojin to Umi yom-e-yo.\(^{11}\)
    weekend-at The Old Man and the Sea read-Imp-Prt
   ‘Read *The Old Man and the Sea* over the weekend.’

b. [Ami reports with a pointing gesture toward the book, *The Old Man and the Sea*]
    Hiroshi-ga Taiki-ni [shumatu-ni *sono hon-o*
    Hiroshi-Nom Taiki-Dat [weekend-at *that book-Acc*
    yom-e-to] it-ta.
    read-Imp-C∞ say-Past
   ‘Hiroshi said to Taiki to read that book over the weekend.’

As discussed in Kuno (1988), the third person pronoun *yatu* (vulgar form) occurring in the complement in (13) is an indication of indirect speech; the speaker of the original speech, Hiroshi, could not have referred to himself in the third person.

(13) Hiroshi-ga [*yatu-no uti-ni ko-i-to] erasooni
    Hiroshi-Nom [*he-Gen house-to come-Imp-C∞] bossily
    sijisi-te-ki-ta.
    order-Ger-come-Past
   ‘Hiroshi bossily ordered (to me) to come to his house.’

These facts strongly suggest that Japanese allows embedded imperatives. Kuno (1988: 76) refers to these structures as “blended discourse.” While the complement clauses manifest the whole set of properties of indirect speech, they occur in imperative forms, which, based on a widely held as-

\(^{11}\) See footnote 7 on this particle -yo.
sumption, should be allowed only in direct speech contexts. However, what if we reject this very assumption that imperatives are universally prohibited in embedded contexts? Multiple recent studies have observed evidence for embedded imperatives: Rus (2005) and Stegovec and Kaufmann (2015) discuss embedded imperatives in Slovenian, Platzack (2007) in Old Scandinavian and Medeiros (2015) in Ancient Greek, although they often occur only in some restricted contexts. Crnič and Trinh (2009) argue that even English allows imperative embedding under some conditions (e.g. John said call his mom). Embedded imperatives now seem like a viable option to pursue.

Below are Korean embedded imperative, promissive and exhortative examples from Zanuttini et al. (2012: 1268):

(14) a. Emma-ka Inho-eykey kongpuha-la-ko
mother-Nom Inho-Dat study-Imp-Comp
hasiess-ta.
said (honorific)-Dec
‘Mother told Inho to study.’

b. Kyoswunim-kkeyse Inho-eykey nayil liphothu-lul
professor-Nom Inho-Dat tomorrow report-Acc
cwu-ma-ko hasiess-ta.
give-Prm-Comp said (honorific)-Dec
‘The professor promised Inho that he will give back the report tomorrow.’

c. Emma-ka Inho-eykey kongpuha-ca-ko
mother-Nom Inho-Dat study-Exh-Comp
hasiess-ta.
said (honorific)-Dec
‘Mother exhorted Inho to study together.’

If the Japanese data in (10) and the Korean data in (14) do involve embedding of the imperative, the promissive and the exhortative, why not the parallel English control constructions in (9)? I propose that the following English control constructions involve embedding of the imperative and the related clause types ((15c) is adapted from Landau (2000)):

(15) Proposal (an overall view)
   a. Harry ordered Betty [IMP to leave].
   b. Harry promised Betty [PRM to leave].
   c. Harry proposed to Betty [EXH to meet each other at 6].

The interpretation of the null subject (PRO) boils down to person restrictions imposed on the subject by clause types as summarized in (6). How-
ever, there are two obvious problems to this view: one pertains to the interpretation of the embedded subject; and the other to the morphological gap between root and embedded imperatives in English. The next two sections address these issues.

5. Context-Shifting

Those who oppose the idea of imperative embedding may ask the question: if the subject of the imperative is said to refer to the addressee of the speech context, why does it not refer to the addressee when embedded (Maier (2010))? Similar questions can be raised against embedded promises and exhortatives. For instance, if the complement clause in (16) is actually imperative, and John utters (16) to Mary, why is it that Taiki is to do his homework, not Mary?

(16) [Context: John is speaking to Mary.] Hiroshi told Taiki to do his homework.

This issue is solvable by what is known as a monstrous operator (Kaplan (1989)), or context-shifting, which is indeed not so monstrous as it first appears (Schlenker (2003)). In fact, various recent analyses on control have converged on the view that complement control involves some sort of context-shifting (Bianchi (2003), Anand and Nevins (2004), Stephenson (2010), Pearson (2013, 2015), Landau (2015)). Some of them explicitly mention that context-shifting plays a role only in PC, but not in EC ((Bianchi (2003), Pearson (2013, 2015), Landau (2015)). Let me focus on Bianchi’s (2003) proposal.

Bianchi proposes that every clause, root or embedded, is anchored to what she calls the Logophoric Center. This constitutes a deictic center representing a tuple of coordinates such as the speaker, the addressee and the time. The speaker coordinate does not only represent the speaker of speech events, but it covers a wide range of notions such as the author of thoughts and beliefs, and the experiencer of emotions. The addressee coordinate does not always need to be represented; its presence is only required in speech events with intended addressees. She argues that finite clauses

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12 There are controversies surrounding the nature of shifting taking place in attitude complements: whether it involves the centered worlds (Stephenson (2010)) or the indexicals (Anand and Nevins (2004)). I assume that at least the latter is involved in embedded imperatives.

13 Bianchi (2003) also mentions a spatial coordinate, but I omit it here for simplicity.
with absolute tense and full person agreement are anchored to an external Logophoric Center (eLC), whereas some non-finite clauses (e.g. control complements) are anchored to an internal Logophoric Center (iLC). An eLC is anchored to the actual utterance context; it represents the speaker, the addressee and the time of the actual utterance. On the contrary, an iLC is anchored to the speech or mental event usually introduced by the higher clause; this time, the speaker, the addressee and the time coordinates correspond to the speaker, the addressee and the time of the introduced event. The time coordinate in an eLC can be equated with the Reichenbachian S point.

Context-shifting from eLC to iLC takes place in certain clausal complements, concretely, those under the predicates of speech or mental events. Crucially, Bianchi maintains that eLC and iLC are syntactically represented. They are encoded in Fin head, the lowest head in the CP domain in Rizzi’s (1997) system. When it involves eLC, Fin has a [+finite] value; and when it involves iLC, Fin is marked [−finite]. She subsumes PC complements under the [−finite] Fin iLC clauses. Bianchi (2003) holds that EC does not involve iLC because the matrix predicates (e.g. dare, manage) do not denote a speech or mental event. I take the same view. Building on Bianchi (2003), I posit that (16), repeated here as (17), has the configuration (18).

(17) [Context: John is speaking to Mary.] Hiroshi told Taiki to do his homework.

(18) [Fin_{eLC} <Sp*, Ad*, Time*> Hiroshi told^{1} Taiki [Fin_{iLC} <Sp^{1}, Ad^{1}, Time^{1}> to do his homework]].

In (18), the matrix Fin, Fin_{eLC}, is anchored to the actual utterance event: the event of John speaking to Mary. The Fin in the subordinate clause, Fin_{iLC}, is anchored to the matrix event of telling. It follows that Sp*, Ad* and Time* in the matrix Fin correspond to John, Mary and the time of actual utterance respectively. Sp^{1}, Ad^{1} and Time^{1}, on the other hand, represent the referents of Hiroshi and Taiki, and the time of telling. I follow Schlenker (2003) in marking the utterance context with a star ‘*’: Sp*, Ad* and Time* always indicate that they are anchored to the actual utterance event. The number marking on Sp^{1}, Ad^{1} and Time^{1} are used to express that they are the coordinates of iLC, anchored to an introduced event; hence told^{1}.

I argue that the complement clause in (17) is an embedded imperative with the configuration presented in (18). It follows that it is not Mary, the addressee of the actual utterance, who is to do her homework; but it
is the referent of *Taiki*, the addressee of the event of *telling*, who is to do his homework. When imperatives are embedded, the deictic center shifts from eLC to iLC. The addressee of eLC can be distinct from that of iLC, although this is not necessarily so; in cases like *I told you to leave*, the overlap between the eLC and iLC addressees and speakers are possible. In any event, the addressee orientation of the imperative only holds relative to a certain context. Just like tense allows both *absolute* tense and *relative* tense (e.g. Ogihara (1996)), we have *absolute* addressees and *relative* addressees; and we have *absolute* imperatives (=root imperatives) and *relative* imperatives (=embedded imperatives).

I hold that such an *absolute/relative* distinction is responsible for the morphological difference between English root imperatives and embedded imperatives (PC complements). The next section focuses on this issue.

6. *Leave vs. To Leave*

Following the proposal in (15), I argue that the complement clause in (20) is an embedded imperative. Then, why does it take a *to*-infinitive verb, not the verb in the imperative form as in (19):

(19) *Leave!*

(20) John told Mary [\texttt{IMP to leave}].

An implicitly held assumption in the literature seems to be that imperative embedding, if it is possible, must involve the imperative verbal morphology (e.g. Platzack (2007), Crnič and Trinh (2009), Medeiros (2015)). However, I argue that this is not necessarily so. Although root imperatives and embedded imperatives are *almost* identical with respect to their syntactic configurations, there is a slight difference in features on T. Consider (21) and (22) which represent the simplified structures at the end of derivations for (19) and (20) respectively.

(21) \[ \texttt{[F\_Fin eLC \textless\text{Sp*, +Ad*, Time*}] [TP xT \text{irrealis} \textless\text{Sp*, +Ad*, Time*}] [vP tLeave]]}. \]

(22) John told\textsuperscript{1} Mary \[ \texttt{[F\_Fin iLC \textless\text{Sp\textsuperscript{1}, +Ad\textsuperscript{1}, Time\textsuperscript{1}] [TP x\text{irrealis} \textless\text{Sp\textsuperscript{1}, +Ad\textsuperscript{1}, Time\textsuperscript{1}] to [vP t\_leave]]}}].

The x at SpecT is the subject in both contexts, in an agreement relation with Fin and T.\textsuperscript{14} T\textsubscript{irrealis} is interpreted relative to an *unshifted* Time* in

\textsuperscript{14} In what follows, I do not indicate the null subject of control complements as PRO. This is because I wish to develop an argument without any presuppositions standardly held for this typical null element.
roots and a *shifted* Time⁰ in embedded contexts. Indeed, a more detailed discussion on the tense properties of imperatives may be necessary to provide a complete picture of imperatives, but that would take us too far afield. It might involve a projection distinct from a standard T, or T may work with other functional heads (Rupp (1999), Jensen (2003), Zanuttini (2008)). I leave this issue open to further study, and simply posit T_{irrealis} as a cover term for any properties the imperative “tense” may have. This section considers differences on T between root and embedded imperatives in terms of agreement. Although I defer to a later discussion (section 7) on specific agreement operations, here, I will mention that I assume Late Insertion (Halle and Marantz (1993)), in which lexical items with specific morphological forms are inserted into terminal nodes after syntactic derivations.

Note that T in (21) has the agreement features <−Sp*, +Ad*, Time*> and T in (22) <−Sp¹, +Ad¹, Time¹>. They have the same values −Sp and +Ad, which are in agreement with the subject x. These values indicate that the reference set of x includes the addressee but excludes the speaker of the relevant context. What distinguishes the features on the two types of T are the stars (*) and the numbers (¹). I argue that these are visible to syntax, and also visible in PF and LF. In PF, *leave* is inserted when T bears <−Sp*, +Ad*, Time*>; and to *leave* is inserted when T has <−Sp¹, +Ad¹, Time¹> or any <−Spⁿ, +Adⁿ, Timeⁿ>.¹⁵ These features must also be interpretable in LF; if not, we will be unable to distinguish between Ad* and Ad¹, which represent distinct individuals.

We can capture such distinctions in a systematic way, building on Schlenker (2003). There are certain morphological forms observed across languages, which can be linked to both the star (*) and the number (ⁿ) features, i.e. anchoring to the actual utterance and to the introduced event respectively. Let me call this group of forms, group A. There are also lexical forms, which correspond only to the star features: group B. Yet another group subsumes those corresponding only to the number features: group C. This classification is summarized in (23). Recall that Sp is a wide notion corresponding to the speaker of speech and the author of thoughts and beliefs.

(23)  Group A: lexical forms corresponding to Sp*ⁿ and/or Ad*ⁿ
      Group B: lexical forms corresponding only to Sp* and/or Ad*
      Group C: lexical forms corresponding only to Spⁿ and/or Adⁿ

¹⁵ See sections 7.1 and 7.2 for their syntactic positions.
Examples falling under group A include the shifting pronouns in Zazaki, Slave and Amharic (Anand and Nevins (2004), Schlenker (2003), Baker (2008)). For instance, in Zazaki the pronoun ez refers to either the speaker of the utterance or the speaker of the matrix event; the pronoun ti refers to either the addressee of the utterance or the addressee of the reported event (Anand and Nevins (2004)). They are two-way ambiguous. It means that ez is linked to both +Sp* and +Spn; and ti to both +Ad* and +Adn. They are underspecified for * and n.

Representative examples of group B items are the English I, we and you. They can only refer to a designated participant(s) in the actual utterance context. They are the true Kaplanian indexicals (Kaplan (1989)). They are only inserted into terminal nodes with the star features, Sp* or Ad*. Unlike the Zazaki ez and ti, they do not give rise to ambiguity (in indirect discourse).

The Ewe logophor yè falls under group C as suggested by Schlenker (2003) and Pearson (2013). Yè always refers to the speaker/author of the reported speech event or mental state. Yè is only compatible with +Spn, but not with +Sp*.

Those forms falling under group B and C support the view that language distinguishes Sp*/Ad* from Spn/Adn. What I propose for the analysis of the English imperative verbal form is the extension of this line of thought: it can be classified into group B with the English I, we and you. The imperative form can only be inserted into nodes with −Sp*, +Ad* and Time* just like you. When embedded, Fin encodes a shifted deictic center (iLC); verbal forms appearing under iLC correspond to Spn, Adn and Timeh. Thus, the imperative verbs in English cannot occur in this context; hence the to-infinitive form. To-infinitives are presumably a default form for Timeh, and occur when a specific Time* form cannot be inserted. In contrast, the Japanese and Korean imperative forms such as -e/-ro and -la correspond to both −Sp*, +Ad*, Time* and −Spn, +Adn, Timeh. They are underspecified for * and n.

Summarizing:

(24) English imperative verbs: −Sp*, +Ad*, Time* (group B)
Japanese/Korean imperative verbs: −Sp*/h, +Ad*/h, Time*/h (group A)

I will later argue that the null subject in English PC can be classified into group C in this regard:

(25) Null subject in English PC: ±Spn, ±Adn, Timeh (group C)
7. Root Imperatives and Embedded Imperatives (PC Complements): Derivations

This section turns to detailed accounts for syntactic derivations for root imperatives and embedded imperatives, which constitute a part of PC. The syntax of imperatives is enormously complex in itself. No consensus has been reached even as to the specific syntactic position of the imperative verb or “subject.” What is attempted here is to provide the most plausible account on how the featural configurations such as those in (24) and (25) are derived. I employ the minimalist feature checking approach (Chomsky (2000)), but I assume that both interpretable unvalued and uninterpretable valued features are possible (Pesetsky and Torrego (2007)). Furthermore, I argue that uninterpretable features need not be deleted for Spell Out after agreement; uninterpreted features get interpreted through agreement and remain interpretable in LF and PF as suggested by Sigurðsson (2004a, 2004b, 2010). This makes the interpretable vs. uninterpretable distinction essentially redundant. Thus, the present paper only distinguishes between valued vs. unvalued features and between represented vs. unrepresented (occurrence and non-occurrence of) features.

7.1. Root Imperatives

Recall that I argued root imperatives are eLC imperatives; and embedded imperatives are iLC imperatives building on Bianchi (2003). I follow Bianchi in assuming that the Fin head in Rizzi’s (1997) system is the locus of the Logophoric Center.

I will first attend to root imperatives such as (19), repeated here as (26). The configuration at the end of the syntactic derivations is indicated in (26).

(26) Leave!

\[
\begin{align*}
&[\text{FinP } \text{Fin}_{\text{eLC}} \prec \text{Sp}\ast, \text{Ad}\ast, \text{Time}\ast] \quad [\text{TP } x_1 \text{Ti} \text{rrealis} \prec \text{Sp}\ast, \text{Ad}\ast, \text{Time}\ast] \quad [vP \ t_1 \text{Leave}]].
\end{align*}
\]

The Sp/Ad coordinates appear with ±values, which play a significant role in subject interpretations. Crucially, I posit that these values do not generate outside of syntax. None of Fin, T or x has these person features pre-valued before agreement contra many previous proposals on imperatives including Han (2000), Jensen (2003) and Zanuttini (2008). My proposal for (26) is composed of two agreement operations summarized in (27):

(27) (i) T-x (subject) agreement (ii) Fin-x (subject) agreement

First, there is T-x agreement. x is still located in the vP internal position. In (28), uv represents an unvalued feature, and v a valued feature (in (29)). When the features are not indicated in the brackets < >, the head
does not bear these features (unrepresented).

(28)  
\[ T \langle uv \text{Time}\rangle \ldots x \langle uv \text{Sp}, uv \text{Ad}\rangle \Rightarrow \]
\[ T \langle uv \text{Sp}, uv \text{Ad}, uv \text{Time}\rangle \ldots x \langle uv \text{Sp}, uv \text{Ad}, uv \text{Time}\rangle \]

T has irrealis tense but lacks information as to where this irrealis tense has to be anchored to; irrealis or future with respect to which time is not specified; hence \( uv \text{Time}\). The subject \( x \) independently refers to an individual or a set of individuals. It has number and gender, but lacks person before agreement. It starts out as an NP with all the semantic content that bare NPs such as \( \text{boy}(s) \) and \( \text{student}(s) \) can have, and becomes a DP in syntax (Fin-x agreement). Thus, \( x \) at this point bears \( uv \text{Sp} \) and \( uv \text{Ad} \), lacking \( \pm \) values. The T-x agreement proposed here is an agreement operation between unvalued occurrences of the features on both sides. I follow Pesetsky and Torrego (2007) in assuming such an operation to be non-vacuous. After agreement, T and \( x \) share the same occurrences of the features Sp, Ad and Time. Now, \( x \) moves up to SpecT for the next agreement with Fin.

The second agreement operation takes place between Fin and \( x \).

(29)  
\[ \text{Fin} \langle uv \text{Sp*}, uv \text{Ad*}, v\text{Time*}\rangle \ldots x \langle uv \text{Sp}, uv \text{Ad}, uv \text{Time}\rangle \Rightarrow \]
\[ \text{Fin} \langle v^{-}\text{Sp*}, v^{+}\text{Ad*}, v\text{Time*}\rangle \ldots x \langle v^{-}\text{Sp}, v^{+}\text{Ad}, v\text{Time*}\rangle \]

Fin has valued Time, which represents the anchoring to the utterance time. Fin also represents Sp* and Ad* corresponding to the speaker and the addressee of the actual utterance. However, before Fin-x agreement, Sp* and Ad* are not valued on Fin. They are not yet valued on \( x \) either. By Fin-x agreement, the unvalued features on both sides get valued in the way Sigurðsson (2004a, 2004b, 2010) proposes: \( \Lambda \)-matching.\(^{16}\) In (29), the subject \( x \) represents a certain reference set; conceptually it starts out as a bare NP. This reference set \( x \) is compared with the Sp* and Ad* anchors on Fin to see if there are any overlaps in reference. If the reference set \( x \) includes the Sp*, the speaker of the actual context, \( x \) is valued \( +\text{Sp*} \), if not \( -\text{Sp*} \). Likewise, if the set \( x \) includes the Ad*, \( x \) is valued \( +\text{Ad*} \), if not \( -\text{Ad*} \). The valuation process can be more formally stated as (30).

(30) The reference set \( x \supseteq \) the reference set Sp \( \Rightarrow +\text{Sp} \), otherwise \( -\text{Sp} \)

The reference set \( x \supseteq \) the reference set Ad \( \Rightarrow +\text{Ad} \), otherwise \( -\text{Ad} \)

Note that both \textit{proper} subset and \textit{identity} relations are possible between \( x \) and Sp/Ad to give rise to a \( + \) value. These rules apply equally to \( \text{Sp*}^{/n} \) and \( \text{Ad*}^{/n} \). A plural Ad is of course possible (multiple addressees), and

\(^{16}\) This is the view I hold for person agreement in general not limited to imperatives.
theoretically, a plural Sp is also possible (multiple speakers speaking in unison). Thus Sp and Ad also involve sets of reference.

In this agreement, Fin provides a deictic center for person agreement. After agreement, the values come out as $\langle -\text{Sp}^*, +\text{Ad}^* \rangle$ on both Fin and $x$ in imperatives. For example, if $x$ refers to a certain set of boys standing in front of you, and if they include the reference set of the addressees you are speaking to, Ad receives a + value both on Fin and $x$. Since $x$ (the boys) does not include the reference set of the speakers, Sp does not meet the condition for a + value, hence it is valued as $-\text{Sp}$. As a reflex of agreement, the unvalued Time* on $x$ gets valued. None of the features on Fin or $x$ gets deleted for Spell Out. They have to remain interpretable in LF on Fin for the clause to identify itself as an imperative clause, and on $x$ for a proper interpretation of person.

Recall that T shares the same occurrences of the Sp, Ad and Time features with $x$ (via T-$x$ agreement). Thus, the Fin-$x$ agreement automatically gives values to these features on T. At the end of these procedures, Fin, $x$ and T all have valued Sp, Ad and Time as in (31).

(31) \begin{align*}
\text{Fin} & \langle v-\text{Sp}^*, v+\text{Ad}^*, v\text{Time}^* \rangle \ldots x \langle v-\text{Sp}^*, v+\text{Ad}^*, v\text{Time}^* \rangle \\
\ldots T & \langle v-\text{Sp}^*, v+\text{Ad}^*, v\text{Time}^* \rangle
\end{align*}

Via two agreement operations (T-$x$ and Fin-$x$), Fin indirectly provides T with the Time value (anchoring to the utterance event). As a result, the irrealis tense on T gets a proper interpretation: future with respect to the utterance time. Again, $v\text{Time}^*$ on T needs to remain undeleted in LF to bring about this particular interpretation: and the Sp/Ad values on T also remain in LF to give rise to the directive force of the imperative.

I temporarily placed the imperative verb at $v$ in (26). However, the issue surrounding the position of the imperative verb is complex. It may be at C, T or some other functional head as suggested by Han (2000), Potsdam (1996) and Rupp (1999) respectively. Presumably, it is subject to crosslinguistic and even intralinguistic variations, and more importantly, the imperative verbal morphology may not be a realization of a single head. It is highly plausible that the imperative verb is inserted into a sequence of syntactic representations, for instance, to the sequence of Fin, T and $v$ in neutral imperatives, i.e. imperatives without negative don’t or emphatic do,

\[\text{17 I assume that all nominal phrases need temporal properties to be properly interpreted as discussed in Tonhauser (2002) and Nordlinger and Sadler (2004) among others.}\]
and the overt imperative subject may be realized at SpecFin.\textsuperscript{18} When \textit{do} or \textit{don't} is inserted possibly into Fin, the Fin-T-v complex splits apart and the subject may optionally be realized at SpecT, or at SpecFin as in neutral imperatives. This may be why the English imperative subject appears either before or after \textit{do} and \textit{don't} as in (32).

(32)  
\begin{enumerate}
\item Don’t you forget! (\textit{don’t} + subject)
\item Do someone help him quickly! (\textit{do} + subject)
\item You don’t be late. (subject + \textit{don’t})
\item Someone do answer the phone! (subject + \textit{do})
\end{enumerate}

(Potsdam (2007: 253))

This is an alternative one could pursue under my system. I leave more conclusive analysis of this issue to future work.

On the nature of \textsubscript{T}irrealis, it is a cover term for tense, aspectual and modal properties of the imperative “tense”; multiple functional heads might be involved in bringing about such properties. These properties on T will be shared with Fin in the proposed system at least in LF; Fin needs them in order to identify itself as an imperative head. If this imperative Fin had only −Sp*, +Ad* and Time*, nothing would distinguish it from the Fin of declaratives (e.g. \textit{You run!} from \textit{You run every morning}). Although precisely how these tense properties are shared between T and Fin is left open to further research, I posit that all the featural properties on Fin, shown in (33), work together and give rise to an imperative force.

(33) Fin <\textsubscript{v}−Sp*, \textsubscript{v}+Ad*, \textsubscript{v}Time*> + \textsubscript{T}irrealis

Importantly, these properties on Fin need to be visible from the higher clause when embedded. I postulate that the Force head, the highest C head, hosts a feature \textit{World}, which distinguishes between an actual world from a set of possible worlds (Kempchinsky (2009)). It triggers Force-Fin agreement, bringing all Fin features to the clausal edge. Alternatively, I could assume Force-Fin head unification (Rizzi (1997), Sigurðsson (2010)) if nothing projects between Force and Fin.

Lastly, let me briefly illustrate how my analysis of person agreement accounts for various overt imperative subjects which are normally third person including quantificational subjects, proper names and bare noun phrases (Potsdam (1996), Rupp (1999), Zanuttini (2008)). Below are some exam-

\textsuperscript{18} See Potsdam (1996, 2007) for detailed empirical observations on \textit{do} and \textit{don’t} imperatives.
The quantificational subjects such as *everyone* and *someone* as in (34a) are associated with a set of reference that sets the domain for quantification: *everyone* or *some* of who? This domain set goes through a valuation with Sp* and Ad*. If the domain includes the addressee(s) but excludes the speaker(s), the quantifiers *everyone* and *someone* are assigned <\(-Sp^*, +Ad^*>; they become semantically and syntactically equivalent to the expressions *everyone* of you and *some* of you respectively. The possessive *your* occurs in (34a) for this reason. English proper names are usually considered to be full DPs, but they can also be NPs in some contexts, appearing with a determiner (e.g., *The John you met yesterday is not the John I am talking about*). In (34b), I assume that *Gabriel* and *Dani* start out as NPs referring to Gabriel and Dani respectively. If Gabriel and Dani are in fact included in the set of addressees, these NPs receive the null determiner *you*, or a D head valued as <\(-Sp^*, +Ad^*>, by agreement. This means that *Gabriel* and *Dani* in (34b) are conceptually *you Gabriel* / *you Dani* where *you* is null but serves as a determiner in a way proposed in Postal (1970b). Under this view, the bare NPs such as *boys* and *girls* ((34c))

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19 The subjects in (34) are not vocatives, as is well discussed in the literature including Postdam (1996), Rupp (1999) and Jensen (2003).

20 This said, there remains a question as to why certain quantifiers (e.g. *many*, *most*) cannot appear as the subject of the imperative.

21 I do not intend to say *you Gabriel* is a phonologically realized expression. It only illustrates that *Gabriel* in my system would have a null D with <\(-Sp^*, +Ad^*> in line with the DP hypothesis (Abney (1987), Longobardi (1994)). However, even so, there remains the issue as to why this abstract *you Gabriel* is allowed in imperatives but not in other environments. As pointed out by an anonymous reviewer, *you Gabriel* would be ungrammatical due to the plural restriction on pronoun-ordinary noun sequences.

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(i) a. we/us/you.pl linguists
   b. *I/me/you.sg linguist

A partial solution to this may come from what appears to be lack of number specification in imperatives. The null *you* or the set of <\(-Sp^*, +Ad^*> features I propose for imperative subjects lacks number or presumably it is plural by default due to lack of <\(-Pl^*> specification. Potsdam (1996) and Zanuttini (2008) make an interesting observation that imperatives with a proper name subject are preferred in coordinated structures as in (34b). More intriguingly, when a vocative such as *kids* occurs in imperatives with a proper noun, those in coordination are grammatical as in (iia), but those in isolation are ungrammatical as in (iib).
receive a natural account. They generate as bare NPs and are turned into DPs, *you boys* and *you girls*, where *you* is null. Quantifiers, proper names and bare NPs, which are normally third person, receive <−Sp*, +Ad*> values via agreement, giving rise to a second person interpretation and the agreement on the possessive *your* in imperatives. Furthermore, the imperative subject can be null even in English, a non-pro-drop language, because the −Sp* and +Ad* features are expressed by the verbal morphology.

7.2. Embedded Imperatives (PC Complements)

Let me turn to embedded imperatives or PC complements such as that in (35). The two-step agreement operations take place just like in roots: T-x and Fin-x agreement.

(35) John told Mary to leave.

John told₁ Mary [FinP FinᵢLC ←Sp₁, +Ad₁, Time₁> [TP x₁ Tᵢrealis ←Sp₁, +Ad₁, 

Time₁> to [vP t₁ leave]].

The only difference is that, this time, Fin represents iLC anchored to the matrix event of telling; FinᵢLC starts out with Sp₁, Ad₁, and Time₁. After agreement operations, Fin, x and T come to bear the features as below:

(36) Fin <v−Sp₁, v+Ad₁, vTime₁>...x <v−Sp₁, v+Ad₁, vTime₁>

...T <v−Sp₁, v+Ad₁, vTime₁>

The consequences are, first, the verbal form will be *to leave* not the imperative *leave* as discussed in section 6; *to* may be inserted into T as in (35), but the verb *leave* at v, because *to* would bear all necessary agreement features for proper interpretations. Alternatively, *to* may be inserted into the Fin-x-T complex. I assume that Fin, x and T can be bundled together when nothing projects in between. In any case, when embedded, the imperative morphology (zero-morphology) cannot be realized in English with n (n=1, here) features, although it is possible in Japanese and Korean. Second, x cannot be overtly realized at least in English. Up to this point, I have not explicitly made direct connections between ±Sp and ±Ad values

(ii) a. Kids, Gabriel comb your hair; Dani put on your shoes!

b. *Kids, Gabriel comb your hair! (Zanuttini (2008: 195))

This suggests that there might be a D element, higher up in the structure agreeing collectively with both Gabriel and Dani. Thus, it is not the sequence of you.sg Gabriel at issue but you.pl Gabriel and Dani, compatible with the plural restriction. This way of thinking undoubtedly leads to numerous new issues including the exact position of imperative subjects, the DP internal syntax of proper nouns and the reason why imperatives lack number specification, which will be sought after in future research.
and overt realizations of 1st/2nd/3rd person agreement. In English, ±Sp and ±Ad values do not always yield overt 1st/2nd/3rd person agreement; only Sp* and Ad* anchored to the actual utterance event but not Spn and Adn lead to overt 1st/2nd/3rd person agreement. In section 6, I mentioned that the English 1st and 2nd person pronouns I, we and you fall under group B. This means that these pronouns can only be inserted into a feature bundle with Sp* and Ad*; on the contrary, the zero-form is inserted into a feature bundle with any Spn and Adn values. Bianchi (2003) maintains that only Fin with eLC allows absolute tense on T, and this absolute T in turn licenses nominative case with full person agreement; within an iLC Fin clause, T bears relative tense and does not license nominative case, but licenses null case (Chomsky and Lasnik (1993)). My proposal is slightly different from hers in that both overt DPs with person agreement and the null DP (PRO) fall under nominative case, following the discussion in Landau (2006) that the null subject (PRO) bears standard case. I assume that ±Sp* and ±Ad* correspond to the overt nominative forms, and ±Spn and ±Adn to the zero nominative form in English as shown in (37). This explains why the subject of the embedded imperatives (PRO) is necessarily null. Although null, <+Spn, −Adn> brings about an exhortative reading, <+Spn, −Adn> a promissive reading, and <−Spn, +Adn> an imperative reading.

\[(37)\] Nominative Case Morphology in English

| ±Sp* and +Ad* | (inclusive) we | +Spn and +Adn |
|---------------|----------------|---------------|
| ±Sp* and −Ad* | I, (exclusive) we | +Spn and −Adn |
| −Sp* and +Ad* | you            | −Spn and +Adn |
| −Sp* and −Ad* | she, he, it, they... | −Spn and −Adn |

Lastly, I assume that the subject x moves up to SpecFin after Fin-x agreement. It further moves up to the clausal edge, SpecForce, after Force-Fin agreement or Force-Fin head unification (as discussed in 7.1 below (33)). This raised x and all the Fin features now in Force head play vital roles in bringing about expected control relations.

8. PC Phenomena

As discussed in section 2, PC permits a variety of phenomena that allow non-identity relations between a designated higher argument and x (or PRO),

22 In PC complements, the <-Spn, −Adn> combination is impossible.
EMBEDDED IMPERATIVES IN CONTROL

namely implicit, split and partial control. This section illustrates how my proposal accounts for these phenomena.\(^{23}\) They fall out naturally under the proposed assumption that PC complements are embedded imperatives and related clause types. Landau (2015) makes the distinction between PC and EC (logophoric vs. predicative control) very clear. My proposal builds on his observation on PC. However, Landau’s account for PC and mine are different in some important respects. Let me briefly review his account.

8.1. Landau (2015)

Landau’s (2015) analysis of PC is represented in (38) (Landau 2015: 48). He assumes that PRO is a minimal pronoun as in Kratzer (2009). PRO at SpecT moves up to SpecFin; this movement makes PRO a \(\lambda\)-abstractor, which turns a proposition (type \(<s, t>\) denoted by TP into a property (type \(<e, <s, t>>\)). The \(pr_{\lambda}\) at SpecC represents an author coordinate, which roughly corresponds to my shifted Sp\(^{n}\) coordinate. Depending on the matrix predicate, the addressee coordinate \(pr_{\lambda}\) (roughly, my Ad\(^{n}\)) may be projected. PRO is connected to \(pr_{\lambda}\) by predication. More precisely, FinP, denoting a property, serves as a predicate of \(pr_{\lambda}\). He proposes that this \(pr_{\lambda}\) is in turn bound (variable binding) by \(\lambda x\) in the matrix clause; \(\lambda x\) is another \(\lambda\)-abstractor denoting the author of the matrix predicate.

\[\text{(38) } \text{[John[3SG.M]\(\lambda x\) intends-v \([CP \text{ [FinP PRO}_{[\{3\text{SG.M}\}-i]} \text{ [TP PRO}_{[\{3\text{SG.M}\}-i]} \text{ to visit Athens}]]].}\]

He proposes that \(\lambda x\) and PRO share the same \(\phi\)-features via these syntactic relations: binding, predication and movement. He argues that such relations account for the agreement observed in a reflexive anaphor, sometimes appearing in the complement (e.g. \textit{herself} in (43) below). Importantly, for Landau, \(pr_{\lambda}\) is a variable bound by the author of the matrix event.

Landau’s proposal and mine share the view that PC involves a shifted

\(^{23}\) PC also requires an obligatorily \textit{de se}, [+human] reading of the null subject. I will deal with this issue in detail on another occasion. I basically assume that such a reading arises from the +Sp and/or the +Ad features associated with the iLC, present in PC but not in EC. Control shift is also only available in PC, which, for reasons of space, I do not discuss in this article. I assume that some instances of control shift involve selection of multiple clause types; and \textit{be-allowed-to} type control shift is triggered by a selectional mismatch (see Matsuda (2015a, 2015b)).
context tuple of author/addressee coordinates. Both account for the \textit{de se} and [+human] nature of PC PRO via notions of these coordinates. However, his proposal necessitates an identity relation between the author (or addressee) of the matrix event and PRO by predication. Thus, it is unable to account for partial control and split control. Implicit control seems theoretically possible in his account, but it constitutes a challenge; it requires at least some type of syntactic presence of the controller in the matrix clause for \( \lambda x \) to bear relevant \( \phi \)-features. As discussed below, my proposal does not require a syntactic projection of the controller.

Indeed, controller determination remains an issue for Landau (2015); he provides virtually no account for it. Under my proposal, controller determination is reduced to clause type selection (Grimshaw (1979)). Just as predicates such as \textit{find out} and \textit{know} select interrogatives, some control predicates select imperatives (see Matsuda (2015a, 2015b) for a more thorough discussion of this selectional relationship).

8.2. PC as Imperative Embedding

Most importantly, my structure does not require a syntactically represented DP controller. That is to say, there is no syntactic relationship between the matrix argument and the Sp/Ad coordinate that necessitates their identity relation. Observe the following:

(39) John told Mary to leave.

\begin{align*}
\text{John} & \quad \text{told}^1 \quad \text{Mary} \quad [\text{ForceP/FinP} & \quad x_i \quad \text{<}-\text{Sp}^1, \quad \text{+Ad}^1, \quad \text{Time}^1] \quad \text{Force/Fin} & \quad \text{iLC} < \text{Sp}^1, \quad \text{+Ad}^1, \quad \text{Time}^1 \quad [\text{TP} & \quad t_i \quad \text{to leave}]].
\end{align*}

The matrix predicate \textit{tell} is linked to the complement \text{Force}/\text{Fin} head in two ways: i) one is selection (Grimshaw (1979)) in that \textit{tell} selects certain types of clauses (e.g. imperative, \textit{that}-declarative); ii) the other is iLC anchoring. Note that the complement \text{ForceP} is an internal argument of the predicate \textit{tell}. The complement clause type is locally selected by the predicate. However, there is no direct syntactic relationship between, say, the matrix argument \textit{Mary} and \text{Ad}^1 encoded as an iLC anchor. The nature of the iLC \text{Sp}^1/\text{Ad}^1 coordinates is, I argue, pronominal in the sense that they directly refer to the speaker (John) and the addressee (Mary) of the relevant event (telling); they are not bound (variable binding) to any higher argument. The eLC \text{Sp}^*/\text{Ad}^* anchors in root imperatives are not bound to any higher arguments; nor are the iLC \text{Sp}^1/\text{Ad}^1 anchors in embedded impera-
tives. In fact, the event itself does not have to be linguistically expressed within the same sentence (see section 8.6). I follow Bianchi (2003) in assuming that PC is an instance of anaphoric event but not of anaphoric Agr (Borer (1989)); and the event that an iLC is being anaphoric to may be inferred from the previous discourse. We just imagine the event of John telling Mary something, and from that context, we directly pick out the speaker (John) and the addressee (Mary). The null subject $x$ is also independently referential in that it is not bound (variable binding) to any other linguistic element; it starts out as a bare NP and becomes a DP by agreement with the Sp/Ad anchors on Fin as discussed in section 7.1. The matrix DP argument is not obligatorily present in syntax for the interpretation of the null subject.

8.3. Implicit Control

Implicit control is the key phenomena for my proposal. It is also a very old issue, being a major challenge to theories of control for almost half a century.\(^{24}\) Consider (40):

\[
\text{(40) My teacher suggested (to me) } x_i \text{ to take another topic. (Koster (1984: 429))}
\]

If a certain context is provided, the matrix dative argument can be omitted. In some traditional approaches to control, which sought to reduce control to binding (e.g. Manzini (1983), Borer (1989)), implicit control appeared particularly mysterious.

\[
\begin{align*}
\text{(41) a. Mary} & \text{ thought that John said (to her) } x_i \text{ to wash herself.} \\
\text{b. Mary} & \text{ thought that John talked *(to her) about herself.} \\
\end{align*}
\]

(\text{Landau (2013: 57)})

While binding requires a binder to be syntactically present ((41b)), syntactic presence of the controller seems not to be mandatory ((41a)).

A well-known argument on the status of implicit arguments comes from Rizzi (1986). He proposes two types of implicit arguments: one is \textit{pro} which is visible to both control and binding; and the other is an element with a somewhat less syntactic status, visible to control but invisible to binding. Landau (2010) proposes that implicit controllers bear syntactically active $\phi$-features but lack D-features, giving them a somewhat intermediate

\(^{24}\) Implicit control dates back to Kimball (1971), where he proposed that apparent Super Equi Deletion is reducible to implicit Equi Deletion involving an implicit experiencer controller.
status. These previous insights have suggested that implicit controllers may be syntactically impoverished to a certain degree. My account is, indeed, indifferent to how syntactically impoverished they are; they can lack any syntactic presence whatsoever. Observe (42), indicating the structure for (40):

(42) My teacher suggested\(^1\) (to me) \([\text{IMP } x \<\text{Sp}^1, +\text{Ad}^1, \text{Time}^1] \text{ to take another topic}\).

It involves imperative embedding: \(x\) refers to the set of individuals inclusive of the addressee but exclusive of the speaker in the event of suggesting. This correctly predicts the referent of \(x\) to be that of \(me\). In fact, \(x\) refers to any set of individuals inclusive of the addressee(s) in the matrix event context. If (42) is uttered by a student working on a project as part of a team, \(x\) may refer to a group of individuals including the referent of \(me\). This would be a case of implicit partial control.

However, one issue prima facie poses a problem to my account. (41a) is repeated here as (43) with my analysis:

(43) Mary thought that John said\(^1\) (to her) \([\text{IMP } x_i \<\text{Sp}^1, +\text{Ad}^1, \text{Time}^1] \text{ to wash herself}\).\(^{25}\)

\(herself\) in (43) has to be locally bound, but its apparent antecedent (\(Mary\)) is too far from it; the syntactic projection of \(to her\) in the intermediate clause seems like a requisite. Under my view, the complement subject \(x\) at the clausal edge (or more directly its trace in Spec\(v\)), but not the dative \(her\) serves as the antecedent for \(herself\) as shown in (44):

(44) … that John said\(^1\) (to her) \([\text{Force/FinP } x_i \<\text{Sp}^1, +\text{Ad}^1, \text{Time}^1] \text{ to wash herself}\).

\(^{25}\) If (43) is uttered to describe a situation where Mary saw John yelling at his son, Bill, and she assumed that John was telling Bill that he (Bill) should wash himself, the subject \(x\) of the infinitival complement can refer to Bill. In that case, the reflexive would be \(himself\) referring to Bill as pointed out by an anonymous reviewer. Consider the following from Sag and Pollard (1991: 93):

(i) Mary was on the alert. John had signaled to position herself behind the door.

In (i), \(herself\) may refer to Mary. In my proposal, it boils down to who the addressee in the embedded Fin represents, which depends on the pragmatic availability. In (i), Mary is probably the most pragmatically natural candidate, and also in (43), Mary would be most natural without any additional contextual information. However, consider (ii):

(ii) Mary saw John yelling at his son, Bill. ? She thought John said to wash himself. But the kid never did.

My informant, although marginal, accepts the reading in which \(himself\) refers to Bill. I assume that as long as the pragmatics allows the addressee represented in the embedded Fin of the second sentence to refer to Bill, such a reading is available.
The values on \( x \) correctly predict that the reference of \( x \) is inclusive of the addressee(s) (=her) and exclusive of the speaker(s) (=John) in the event of saying. However, *yourself* cannot occur in the position of *herself* because \( <-Sp^1, +Ad^1, Time^1> \) does not license 2\(^{nd} \) person agreement (see (37)). I argue that the third person agreement on the reflexive comes from \( x \) agreeing with \( v \) in the matrix clause. Since \( x \) is located at the clausal edge, there is no locality issue blocking this agreement:

(45) \[
\text{agreement} \quad x_i <-Sp^*, -Ad^*, Time^*> \quad \text{[viP \( <Sp^*, Ad^*, Time^*> \text{ said} \text{[Force/Fin} P \quad x_i <-Sp^1, +Ad^1, Time^1> \text{ to wash herself]}]}.
\]

The matrix \( v \) in (45) represents \( \text{Fin}_{eLC} \) with \( Sp^*, Ad^* \) and \( Time^* \) anchored to the actual utterance. The agreement between \( v \) and \( x \) proceeds in the same way as the \( \text{Fin}-x \) agreement in (29). Let us assume that \( x \) refers to Mary. It has inherent number and gender features, singular and feminine; but it lacks person. Now imagine that Hiroshi utters (43) ((45)) to Ami. \( Sp^* \) denotes Hiroshi and \( Ad^* \) Ami. Mary does not include the reference set \( Sp^* \) or \( Ad^* \); hence \( x \) (=Mary) is valued \(-Sp^* \) and \(-Ad^* \). The two sets of features for \( x \) shown in (45) are not redundant. The same individual, say Mary, can be referred to in 1\(^{st} \), 2\(^{nd} \) or 3\(^{rd} \) person in different root contexts: 1\(^{st} \) person when Mary is the speaker, 2\(^{nd} \) person when she is the addressee, and 3\(^{rd} \) person when she is neither the speaker nor the addressee. I argue that the shift in person can happen within a single sentence. \( x \) under iLC and under eLC has different person values, \( <-Sp^1, +Ad^1> \) and \( <-Sp^*, -Ad^*> \). At Force/Fin, the interface of the two clauses, the same \( x \) can bear two sets of values. After \( v-x \) agreement, \( x \) bears \( <-Sp^*, -Ad^*> \) and its inherent number (=singular) and gender (=feminine). The anaphor *herself* is bound to \( x \) with these features.

Now, an issue arises as to why \( x \) cannot take an overt form (e.g. *she*) after agreeing with the matrix \( v \) and acquiring the feature bundle \( <-Sp^*, -Ad^*> \).\(^{26} \) This problem, in my view, concerns nominative case assignment. I assume that the English nominative morphology is a realization of Fin and the DP at SpecT in agreement. \( x \) in (45) bears both \( <-Sp^1, +Ad^1> \) and \( <-Sp^*, -Ad^*> \), but it is only \( <-Sp^1, +Ad^1> \) that is in agreement with the embedded \( \text{Fin}_{iLC} \); \( \text{Fin}_{iLC} \) and \( x \) at SpecT in agreement together take the zero-form. This explains why the null subject (PRO) occurs only

\(^{26} \) This issue was raised by an anonymous reviewer of an earlier draft. Thanks to him/her, I was able to make important revisions to my proposal.
in the subject position. In fact, the subject of infinitival complements may sometimes be overt in the accusative form after for. There still remains the issue of why <-Sp*, -Ad*> is reflected on the reflexive herself but not <-Sp1, +Ad1> if x bears both sets of features. The problem probably lies in case asymmetries, although I leave this issue open to further study.

8.4. Subject, Object and Split Control

Split control as well as canonical subject and object control fall out just naturally under my proposal. Consider the following cases. (46a) is standardly assumed to exhibit subject control, (46b) object control and (46c) split control, taken from Landau (2000: 53):

(46) a. John promised\textsuperscript{1} Mary [\textsc{prm} x <+Sp\textsubscript{1}, -Ad\textsubscript{1}, Time\textsubscript{1}> to leave].
   b. John ordered\textsuperscript{1} Mary [\textsc{imp} x <-Sp\textsubscript{1}, +Ad\textsubscript{1}, Time\textsubscript{1}> to leave].
   c. John proposed\textsuperscript{1} to Mary [\textsc{exh} x <+Sp\textsubscript{1}, +Ad\textsubscript{1}, Time\textsubscript{1}> to meet each other at 6].

The complement clause in (46a) is analyzed as an embedded promissive, (46b) an embedded imperative and (46c) an embedded exhortative. As a result of agreement operations (section 7) the subject x in embedded promissives ends up with the features <+Sp\textsubscript{1}, -Ad\textsubscript{1}, Time\textsubscript{1}>; that in embedded imperatives with <-Sp\textsubscript{1}, +Ad\textsubscript{1}, Time\textsubscript{1}>; and that in embedded exhortatives with <+Sp\textsubscript{1}, +Ad\textsubscript{1}, Time\textsubscript{1}>. In Korean and Japanese, these feature values are overtly realized (section 4). In English, they all take a to-infinitive form (section 6). For the subject x in (46a) to bear <+Sp\textsubscript{1}, -Ad\textsubscript{1}> means that the reference set of x includes the speaker(s) but excludes the addressee(s) in the event of promising; in that event, the speaker is John and the addressee is Mary. My system predicts that John is included in set x but Mary is excluded from it. The prediction is borne out:

(47) John\textsubscript{i} promised Mary\textsubscript{j} [\textsc{prm} x\textsubscript{i/*j} to leave].

In fact, my proposal predicts that x does not always refer exclusively to John. I will return to this issue later (section 8.5). It works similarly for the embedded imperative ((46b)) and for the embedded exhortative ((46c)).

Split control is an instance of exhortative embedding.\textsuperscript{27} The x comes to bear <+Sp\textsubscript{1}, +Ad\textsubscript{1}, Time\textsubscript{1}> by agreement; the reference set of x is thus understood to include both John and Mary, the speaker and the addressee of the proposing event. This prediction is also borne out:

\textsuperscript{27} The connection between the exhortative mood and split control has already been suggested in the previous literature including Fujii (2006) and Madigan (2008).
EMBEDDED IMPERATIVES IN CONTROL

(48) John, proposed to Mary, \(i_{EXH} x_{ij} \) to meet each other at 6.

Although split control has been one of the major puzzles in the research on control,\(^{28}\) it can be viewed as a natural consequence of exhortative embedding.

8.5. Partial Control

By now it should already be clear that partial control is also a natural consequence of my proposal. The key is the agreement operation between the subject \(x\) and Fin. The rules in (30), repeated here as (49), are applied in feature valuation.

\[
(49) \quad \text{The reference set } x \supseteq \text{the reference set } Sp \Rightarrow +Sp, \text{ otherwise } -Sp \\
\text{The reference set } x \supseteq \text{the reference set } Ad \Rightarrow +Ad, \text{ otherwise } -Ad
\]

Consider (50), taken from Landau (2000: 54). (51) is the syntactic representation:

\[
(50) \quad \text{Mary recommended to John, } x_{ij}, \text{ to convene without her.} \\
(51) \quad \text{Mary recommended} \;^1 \; \text{to John, } \left( x \leftarrow -Sp^1, +Ad^1, Time^1 \right) \; \text{to convene without her.}
\]

The subject \(x\) refers to John plus some other individuals. My proposal as shown in (51) correctly predicts this reading; \(x\) bears \(\leftarrow -Sp^1, +Ad^1, Time^1\), indicating that the reference set of \(x\) is inclusive of the reference set of the addressee (John) in the event of recommending. As a matter of fact, the control constructions that fall under PC are always ambiguous between partial and exhaustive readings.\(^{29}\) Put differently, a collective element such as together, convene and as a team are not required to induce PC as discussed in Pearson (2013). Observe (52):

\[
(52) \quad \text{Betty asked Harry, } x_{ij}, \text{ to move the dining table.}
\]

If the contextual information is properly set for (52), that the table is considered to be too heavy for Harry alone to move, partial control naturally arises without a collective element. However, an exhaustive reading remains a possibility in (52), in the context where Harry is considered very strong that he could move it alone. My proposal correctly captures such ambiguity:

\[
(53) \quad \text{Betty asked} \;^1 \; \text{Harry, } \left( x \leftarrow -Sp^1, +Ad^1, Time^1 \right) \; \text{to move the dining table.}
\]

My analysis in (53) only requires that Harry is included in the reference set

\(^{28}\) As far as I know, split control was first observed in Jackendoff (1972).

\(^{29}\) PC and a partial control reading are two distinct notions as discussed in section 2.
of $x$. Furthermore, the subset relation that holds between the addressee of the event of asking and $x$ does not exclude an identity relation; hence both partial and exhaustive readings are available.

One might consider the rules in (49) to be stipulative; they are not. They are the rules applied to the world’s languages in defining 1st/2nd/3rd person (Noyer (1992), Wechsler (2010)). As shown in (37), applying these valuation rules to any reference set $x$ renders a combination of ±Sp and ±Ad values; the combination then determines person agreement. The rules are not custom made for PC. Note that a partial reading is also available in root imperatives such as (54) taken from Potsdam (1996: 208):

(54) Your family is going camping for the week?!! Well, you all have a good time!

The addressee(s) of the utterance context constitutes only a subset of the reference of the imperative subject you all.

8.6. Extensions

Up to this point, I have only focused on control into infinitival complements of a verbal predicate. This section just briefly illustrates some possible extensions of my proposal. Observe the following:

(55) a. the order to leave
   b. the order$^1$ [IMP $x$ $<$−Sp$^1$, +Ad$^1$, Time$^1$> to leave]

I assume that the complement of the nominal order is an imperative. It has the same syntactic structure as the complement in (46b). It brings about the interpretation that the addressee(s) in the event of ordering is/are to leave. The information as to who the addressee(s) is/are can be provided contextually (see section 8.2). Of course, one may argue that there is a null syntactically projected argument of the nominal order. The point is that my proposal is tenable even if there is no such projection. Consider the following data adapted from Jackendoff and Culicover (2003: 529).

(56) A: Susan got an order$^1$ from John. / John gave Susan an order$^1$.
    B: What was it?
    A: It was [IMP $x$ $<$−Sp$^1$, +Ad$^1$, Time$^1$> to take care of herself/*himself].$^{30}$

(56) illustrates the possibility that iLC anchoring takes place across sentences. It supports the view that the iLC may be anchored to a contextually

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$^{30}$ See section 8.3 for a discussion on how the agreement on herself may be brought about.
inferred event.

9. Conclusion

Reviving ideas from Postal’s (1970a) classic work, I have argued that some PC complements are embedded imperatives. In some languages including Japanese and Korean, the imperative morphology appears in PC complements. It is not as straightforward in English because the complements take to-infinitives, which are distinct from root imperative verbal forms. Nevertheless, I have shown that root imperatives and some PC complements share the core properties of the imperative. The morphological gap between them is brought about by a slight featural difference. The fact that embedded imperatives are shifted whereas root imperatives are unshifted accounts for this featural difference.

By treating PC complements as embedded imperatives and some related clause types, various puzzling phenomena surrounding complement control are given natural accounts. Implicit control, split control and partial control do not appear as mysterious as before.

The present study, however, does not argue that all PC complements are imperatives or jussives. Some fall outside the scope of the present analysis. For example, control complements of Landau’s (2000 and subsequent works) factive predicates (e.g. hate, like) and interrogative predicates (e.g. find out, know) are not imperatives. Even those under propositional predicates (e.g. assert, believe) and desiderative predicates (e.g. hope, prefer) are not imperatives. My analysis is admittedly limited. However, recall the broader aim of the present study that I mentioned in the introduction. It was to illustrate that infinitives are much richer than standardly assumed. They are richer in that they have their own person properties, which are not anaphoric to the matrix argument or Agr. Towards this goal, I presented limited but clear evidence that control infinitival complements are associated with their own person features independent from those of the matrix clause. By extension of this line of thought, a wider range of control phenomena may become explainable. Predicates such as hope and prefer may occur with an optative complement bearing a +Sp (or +Author) feature. It may be extended to certain instances of control by nominals and long distance control (section 8.6).

Some PC constructions involve anaphoric event (Bianchi (2003)) but not anaphoric Agr (Borer (1989)). I believe that such a view will contribute to deeper understanding of control and infinitives in general. Further studies
are awaited to prove whether this line of thought is on the right track.

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