

The Syntax of English Imperatives: No V-to-I Movement and Optional I-to-C Movement

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Abstract

This paper investigates the two idiosyncratic syntactic properties of English imperatives: the cooccurrence of auxiliary do with have/be and the appearance of do either before or after an overt subject. The first property results from no V-to-I movement in imperatives and it is analyzed with a slightly modified version of Lasnik's (1995) theory of verbal morphology: the parametric characterization of Infl in imperatives is +affixal and weak regardless of the types of verbs. The second property results from optional I-to-C movement of do in imperatives and it is analyzed with the notion of "internal diglossia": grammars with strong IMP and weak IMP coexist in the mind/brain of English speakers.

Keywords: imperatives, V-to-I movement, do-support, have/be, optional operation

1. Introduction

In English imperatives, two idiosyncratic syntactic properties are found. First, auxiliary verbs *have/be* can cooccur with auxiliary *do* in imperatives, while they cannot in declaratives or interrogatives. See the following examples, in which copula *be* appears in *a* examples, passive *be* in *b* examples, progressive *be* in *c* examples, and perfective *have* in *d* examples:

- (1) a. Don't be idle.
b. Don't be intimidated by those bullies. (McCawley 1998: 548)
c. Don't be sleeping when they arrive. (ibid.: 549)
d. Don't have finished the job yet when we get back. (ibid.: 549)
- (2) a. *You don't be idle.
b. *You don't be intimidated by those bullies.
c. *You don't be sleeping.
d. *You don't have finished the job yet.

- (3) a. *Don't you be idle?
 b. *Don't you be intimidated by those bullies?
 c. *Don't you be sleeping?
 d. *Don't you have finished the job yet?

Second, according to Davies (1986) and Potsdam (1996), auxiliary *do* can either precede or follow an overt subject in imperatives, while it necessarily precedes in interrogatives and follows in declaratives:¹

- (4) a. Don't anyone touch my stuff! (Potsdam 1996: 4)
 b. Don't you misbehave while we're gone! (ibid.: 4)
 c. Those with luggage don't leave it unattended! (ibid.: 4)
 d. Girls go into the hall, boys don't move! (ibid.: 4)
- (5) a. Don't you misbehave?
 b. *You don't misbehave?
- (6) a. *Don't you misbehave.
 b. You don't misbehave.

In this paper, we investigate these two syntactic properties of English imperatives which are not observed in other clause types. As the first step, Potsdam (1996) will be reviewed in the next section. He claims that the first property results from the fact that in English imperatives, verbs including auxiliary verbs *have/be* do not raise to I⁰, and that the second property results from the fact that a strong feature which is optionally generated under C⁰ attracts the relevant feature of *do* overtly. It will be seen, however,

¹ Note that many other studies on English imperatives (e.g. Beukema and Coopmans (1989), Zanuttini (1996), Han (1998)), explicitly or implicitly, judge the subject-*don't* order in (4c-d) to be unacceptable.

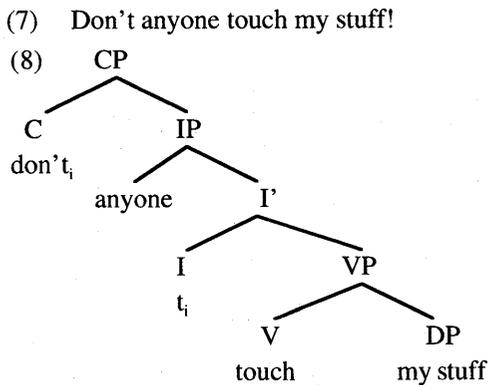
According to Davies and Potsdam, (emphatic) *do* and *do not* can also occur either before or after an overt subject in imperatives, although, in general, imperative sentences in which overt subjects cooccur with *do* or *do not* are not welcomed:

- (i) a. Do SOMEone help him quickly! (Potsdam 1996: 4)
 b. Do AT LEAST SOME of you give it a try! (ibid.: 4)
 c. SOMEone do answer the phone! (ibid.: 4)
 d. Those with children do bring them along! (ibid.: 4)
- (ii) a. ?DO NOT ANY of you touch that cake! It's for the wedding and if any of it is missing heads will roll. (ibid.: 5)
 b. ?DO not YOU, of all people, insult me in this heinous and base manner! (ibid.: 5)
 c. I know I've done wrong but I can't survive on my own.
 ?Oh please, SOMEbody do not desert me! (ibid.: 5)
 d. ?SOMEone do not abandon the gate! The fight is not yet lost and we must maintain the security. (ibid.: 5)

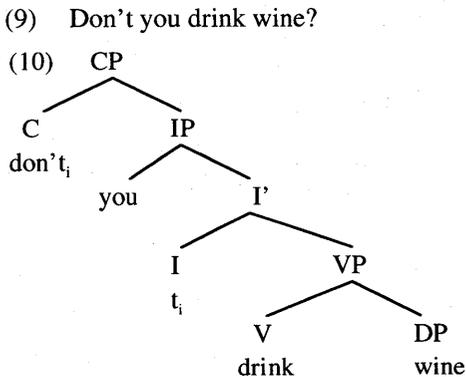
that Potsdam's analysis of the first property is not enough and that of the second property is problematic. Taking those problems into consideration, we will give our own analyses in section 3 and 4.

2. Potsdam (1996)

Potsdam (1996) proposes that the clause structure of imperative sentences is not unique or exceptional and they have the same clause structure as that of other sentence types: in imperatives, as well as in declaratives or interrogatives, subjects are in [Spec,IP] and *do* is base-generated in I^0 , moving to C^0 if it must (for extensive discussions on these null hypotheses, see Potsdam (1996)). For example, the rough structure of an imperative sentence like (7), in which *don't* precedes the overt subject, is (8) (the VP-internal subject trace and the process of combining *do* and *not* are ignored):



This structure is parallel with that of an interrogative sentence (9):

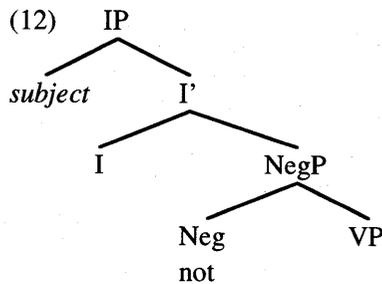


In spite of the parallelisms in the clause structures, imperatives exhibit the two special properties seen in the previous section. In what follows, we see Potsdam's analyses of them in turn.

Let us begin with the first property seen in (1), repeated here as (11), the cooccurrences of *do* with *have/be*:

- (11) a. Don't be idle.
 b. Don't be intimidated by those bullies. (McCawley 1998: 548)
 c. Don't be sleeping when they arrive. (ibid.: 549)
 d. Don't have finished the job yet when we get back. (ibid.: 549)

Potsdam claims, like Lasnik (1981) and other researchers, that this results from the fact that in imperative sentences, verbs including *have/be* do not raise to I^0 , staying within VP, since it is supposed that the reason why *do*-support is not required in non-imperative sentences with *have/be* is that the auxiliary verbs raise to I^0 there. Potsdam argues for no V-to-I movement in imperatives by using some diagnostics. One of them is relative positioning of a verb with respect to sentential negation.² If it is assumed that the position of sentential negation *not* is fixed in a clause and it is between VP and IP, projecting NegP, a partial clause structure is like (12):



Since NegP is outside of VP, we can conclude that a verb raises out of VP to I^0 if it is to the left of *not*, and it does not if it is to the right of *not*. In non-imperative finite clauses, main verbs appear to the right of *not* as in (13), and auxiliary verbs *have/be* appear to the left of *not* as in (14), so it can be concluded that the former do not undergo V-to-I movement and the latter do:

² The positioning of sentential negation is also used for arguing for no V-to-I movement in imperatives by some other researchers than Potsdam (e.g. Lasnik (1981), Beukema and Coopmans (1989), Pollock (1989)).

- (13) Sampson did *not attend* the baby shower.
 (13') *Sampson *attended not* the baby shower. (Potsdam 1996: 73)
- (14) a. That junker *has not run* in a million years.
 a'. *That junker *not have/has* run in a million years. (ibid.: 74)
 b. Kathy *is not getting* her hair done.
 b'. *Kathy *not be/was* getting her hair done. (ibid.: 74)
 c. My koalas *were not misplaced* by the luggage handlers.
 c'. *My koalas *not be/were* misplaced by the luggage handlers. (ibid.: 74)
 d. Mom's scarf *is not on* the candelabra.
 d'. *Mom's scarf *not be/is* on the candelabra. (ibid.: 74)

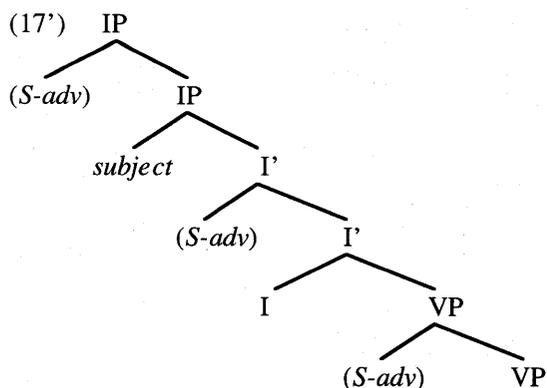
In imperative sentences, main verbs appear to the right of *not* again as in (15), but auxiliary verbs *have/be* also appear to the right of *not*, unlike in non-imperative finite clauses, as in (16):

- (15) Do *not touch* that glass!
 (15') *Touch *n't/not* that glass! (Potsdam 1996: 91)
- (16) a. Do *not have* left a mess in the kitchen for us to clean when we get back!
 a' *Please *have n't/not* left a mess in the kitchen for us to clean when we
 get back! (ibid.: 92)
 b. Do *not be* going so soon!
 b'. *Be *n't/not* going so soon! (ibid.: 92)
 c. Do *not be* fooled by his chicanery!
 c'. *Be *n't/not* fooled by his chicanery! (ibid.:92)
 d. Do *not be* proud!
 d'. *Be *n't/not* proud! (ibid.:92)

These pieces of evidence about the relative positioning of a verb with respect to *not* show that in imperatives verbs including auxiliary *have/be* do not raise to I⁰, staying within VP.

Another diagnostic for V-to-I movement is relative positioning of a verb with respect to "S-adverbs." Potsdam (1996: 18) describes the distribution of this kind of adverb as (17) below:

- (17) Syntactic Distribution of S-Adverbs
 a. left adjunction to IP
 b. left adjunction to I'
 c. left adjunction to the topmost VP



Since, as the above tree (17') clearly shows, S-adverbs can be no lower than the topmost VP, that is, they are outside of VP, we can conclude that a verb raises out of VP to I' if it may appear to the left of an S-adverb, and it does not raise, staying within VP if it can never appear to its left. In non-imperative finite clauses, main verbs cannot appear to the left of an S-adverb as in (18), whereas auxiliary verbs *have/be* can as in (19), so it can be concluded that the former do not raise to I' and the latter do, confirming the conclusion reached by the sentential negation diagnostic above:

- (18) *The principal talked *probably* to the parents.
 (18') The principal *probably* talked to the parents. (Potsdam 1996: 73)
- (19) a. She has *evidently* misunderstood my question. (ibid.: 73)
 b. The police are *probably* surrounding the warehouse as we speak. (ibid.: 73)
 c. The inhabitants were *understandably* bothered by the rioting outside. (ibid.: 73)
 d. Catherine was *apparently* a sports fanatic. (ibid.: 73)

In imperatives, neither main verbs nor *have/be* can appear to the left of S-adverbs as in (20)-(21) (although the sentence with *have* (21d) seems more natural than the corresponding sentences with *be* (21a-c)):

- (20) *Interview certainly with the companies that you're interested in!
 (20') Certainly interview with the companies that you're interested in! (Potsdam 1996: 89)
- (21) a. *Be absolutely listening to the customers' complaints and taking note of them!

- a' Absolutely be listening to the customers' complaints and taking note of them! (ibid.: 90)
- b. *Be normally approved by the committee before coming to the seminar!
- b'. Normally be approved by the committee before coming to the seminar! (ibid.: 90)
- c. *Be normally in your seats before the guest of honor walks in!
- c'. Normally be in your seats before the guest of honor walks in! (ibid.: 90)
- d. ?Have certainly read at least the introduction!
- d'. Certainly have read at least the introduction! (ibid.: 91)

These pieces of evidence about the relative positioning of a verb with respect to an S-adverb again show that in imperatives auxiliary verbs *have/be*, as well as main verbs, do not undergo V-to-I movement, staying in situ, supporting the conclusion reached by the sentential negation diagnostic above.³

Let us turn to the second property of the syntax of English imperatives seen in (4), repeated here as (22), where auxiliary *do* optionally appears before or after the overt subject:

- (22) a. Don't anyone touch my stuff! (Potsdam 1996: 4)
- b. Don't you misbehave while we're gone! (ibid.: 4)
- c. Those with luggage don't leave it unattended! (ibid.: 4)
- d. Girls go into the hall, boys don't move! (ibid.: 4)

Potsdam assumes that when *do* follows the subject, it is located in I⁰, and when it precedes, it is located in C⁰ as a consequence of I-to-C movement. In short, (22) shows optional I-to-C movement of *do* in imperatives.

Potsdam supposes that the I-to-C movement of *do* as in (22a-b) is driven by a strong feature in C⁰, IMP. This feature corresponds to Q in interrogative sentences posited by Chomsky (1995: 289ff.). They are both clause type features generated in C⁰: Q determines interrogative clause type whereas IMP determines imperative clause type. According to Potsdam, the IMP feature is an optional element in imperative sentences. If it appears in a clause, it must be checked off by the relevant feature of *do* before Spell-Out since it is strong, so that *do* raises to C⁰ overtly, yielding imperative sentences like (22a-b).⁴ On the other hand, if it does not appear, *do* does not raise

³ Potsdam posits a third diagnostic using VP ellipsis data. See Potsdam (1996: 92ff.).

⁴ Potsdam claims that IMP is checked by a categorial feature Σ , which is carried by *n't* in *don't*, *not* in *do not*, and +EMPH in emphatic *do* (see Potsdam (1996: ch.6)). However, it is

overtly and imperative sentences like (22c-d) are generated. Q is also strong in English, but, unlike IMP, it necessarily appears in interrogatives, so that the I-to-C movement is obligatory there.

So far, Potsdam's analyses for the two unique properties of English imperatives have been reviewed. Below we point out that neither of them is sufficient and they are to be supplemented or modified. First, as recognized by Potsdam himself, although he succeeds in showing that in imperative sentences, unlike declarative or interrogative sentences, auxiliary verbs *have/be* do not raise to I⁰, staying in situ, he proposes no explicit mechanisms of verb movement and *do*-support. To questions why auxiliary verbs do not undergo V-to-I movement in imperatives and why *do*-support is required when verbs stay within VP, no answers are given.

Second, in order to explain the optionality of I-to-C movement in imperatives, it is claimed that the strong IMP feature, which drives the movement before Spell-Out, appears in C⁰ of an imperative clause optionally. IMP is, however, a feature determining imperative clause type, just as Q is a feature determining interrogative clause type. When it is absent in a clause, how does the clause get interpreted as an imperative? Potsdam assumes that declarative clauses have no clause type feature in C⁰. If so, how can imperative clauses in which IMP is accidentally absent be differentiated from declarative clauses when they are interpreted? Contrary to Potsdam's claim, IMP must be an obligatory element in an imperative sentence.

In the following sections, we will give our own analyses, taking these problems of Potsdam's analyses into consideration. First, in section 3, we will propose a modified version of Lasnik's (1995) theory of verbal morphology in order to account for no V-to-I movement in imperatives. Next, in section 4, the notion of "internal diglossia" will be introduced, which enables us to explain the optional I-to-C movement of *do* in imperatives.

3. No V-to-I movement

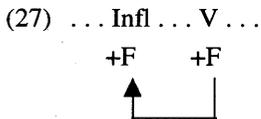
Lasnik (1995) proposes the following approach to verbal morphology:

- (23) a. *Have* and *be* are fully inflected in the lexicon.
 b. All other English verbs are bare in the lexicon.
- (24) Infl is freely an affix or a set of abstract features.

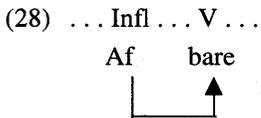
assumed here that IMP is checked by a V feature of *do*. The choice between them is not significant in the following discussion. For the problems with the assumption by Potsdam, see Kato (1999).

- (25) Finite featural Infl is strong in English.
 (26) Affixal Infl must merge with a V, a PF process (distinct from head movement) demanding adjacency.

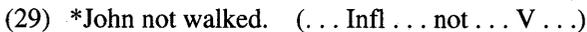
Given these assumptions, the fact that auxiliary verbs *have/be* in non-imperative finite clauses raise to I⁰ and main verbs do not can be accounted for as follows. In the derivation of a finite clause with *have/be*, an auxiliary verb fully inflected in the lexicon and a featural Infl are introduced. The features of the Infl is strong and so the auxiliary verb with inflectional features raises overtly to the Infl to check the relevant features (see (27)):



In contrast, main verbs are introduced into derivations in bare form, and the Infl is affixal. If adjacency obtains, the PF merger of the affix with the verb (i.e. affix-lowering) takes place (see 28)):



In negative sentences, *not* intervenes between the affix and the verb. Since the adjacency condition is not satisfied, affix-lowering does not take place (see (29)):



This derivation would lead to a PF crash because of the stranded affix, so that *do*-support is invoked as a last resort.⁵

⁵ It might be asked why *never*, unlike *not*, does not block affix-lowering, as seen below:
 (i) John never walked.

Here we assume that *never* is an adjunct, hence a maximal projection, and *not* is a head, and that the adjacency condition is sensitive only to heads, and not to maximal projections. This assumption enables us to explain another fact, observed in LME and EModE. In the period, the word order seen in (i) was possible. This means that *not* did not block affix-lowering then. If we suppose, following, for example, Frisch (1995) and Ishikawa (1995), that *not* in the period was not a head but a specifier, the fact that the affix skips *not* to the verb is not problematic, because specifiers are maximal projections.

The supporting evidence for Lasnik's analysis comes from VP ellipsis. It is known that the following descriptive generalization holds for VP ellipsis:

- (30) The bare form of a verb *V* other than *be* or auxiliary *have* can be deleted under identity with any other form of *V*. *Be* or auxiliary *have* can be deleted under identity with the very same form (Lasnik 1995: 111).

VP ellipsis is possible under "sloppy identity" between an antecedent verb and an elided verb, when the verbs are main verbs, as shown in (31), where the elided verbs are all *sleep* in bare form:

- (31) a. John slept, and Mary will too.
 b. John sleeps (every afternoon), and Mary should too.
 c. ?John was sleeping, and Mary will too.
 d. John has slept, and Mary will too. (Lasnik 1995: 108-9)

In contrast, when the verbs are auxiliary verbs, VP ellipsis is possible only under strict identity:

- (32) a. *John was here, and Mary will too.
 b. *John is here, and Mary will too.
 c. John will be here, and Mary will too. (ibid.: 109)

Lasnik claims that this asymmetry in VP ellipsis can be accounted for with the analysis of verbal morphology seen above and the following assumption:

- (33) A form of a verb *V* can only be deleted under identity with the very same form (Lasnik 1995: 112).

(33) means that VP ellipsis is necessarily possible only under strict identity. Since main verbs are introduced into derivations bare, they are in the same form before affix-lowering takes place, so that VP ellipsis can operate at this stage (as shown in (34)).

Moreover, it might be asked why auxiliary verbs can raise across an intervening head position or Neg^0 without bringing about the Head Movement Constraint violation. Here we follow Roberts (1993) and assume that Neg^0 and V^0 are heads of different sorts, that is, the former is an A'-head, and the latter is an A-head, and a head blocks movements across it of a head of the same sort. Although it is clear that more discussion is needed on these questions, we will not pursue them any further here.

After this, affix-lowering takes place, resulting in VP ellipsis under apparent sloppy identity.

- (34) John Infl sleep, and Mary will ~~sleep~~ too (= (31a))

On the other hand, auxiliary verbs *have/be* are introduced into derivations fully inflected, and so there is no point in the derivation when they are in the same bare form. Then, VP ellipsis is impossible under apparent sloppy identity.

Although Lasnik's analysis of verbal morphology enables us to explain the asymmetry between auxiliary verbs and main verbs in verb movement and VP ellipsis as seen so far, it must be slightly modified because of a wrong prediction it makes. The clause (26) leads us to predict that if Infl is affixal, it always lowers to the verb and the verb does not raise. But this is not the case. Verbs may raise even when Infl is affixal. As pointed out by Warner (1995), up until the early nineteenth century, VPs headed by auxiliary verb *be* could be elided under "sloppy" identity (as seen in (35)), which shows that in the English in the period, *be* raises to I⁰ although the Infl is affixal:

- (35) a. I wish our opinions were the same. But in time they will ~~be the same~~.
(1816, Jane Austen, *Emma*, ed. R. W. Chapman (London, Oxford University Press, 1933), 471) [Warner 1995]
- b. And Lady Middleton, is she angry?
I cannot suppose it possible that she should ~~be angry~~. (1811, Jane Austen, *Sense and Sensibility*, ed. R. W. Chapman (London, Oxford University Press, 1933), 272) [ibid.]

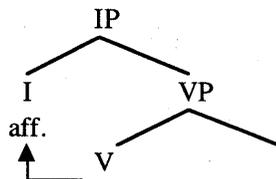
Therefore we have two possible well-formed derivations when Infl is affixal. In one case, the affix lowers to the verb staying in situ. Main verbs in PE fall under this case. In the other case, the verb raises to the affix staying in situ. *Be*'s in (35) fall under this case. If neither verb movement nor affix-lowering occurs, the derivation will be crashed at PF because of the stranded affix. It is obvious that this situation shows that there is a strength parameter for affixal Infl, as well as featural Infl. When affixal Infl is strong, verbs raise to I⁰, whereas when it is weak, affixes lower to V⁰. Now we find that the dichotomy between "affixal Infl" and "featural Infl" is misleading, because strength is a property of features and the fact that "affixal Infl" has the property shows that it does host features. Since both types of Infl have features, the real difference between them is whether or not they host a verbal affix. Thus the correct dichotomy is between "+affixal Infl" and "-affixal Infl."

To summarize the discussion so far, there are two parameters for Infl. One

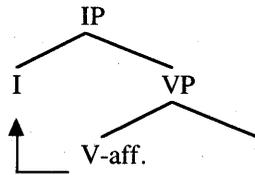
determines whether the Infl is +affixal or –affixal, and the other determines whether it is strong or weak. These two parameters combine to yield four possible patterns of verb movement and decomposability of verbs and affixes, as seen in (37), where V stands for a bare verb and V-aff. an inflected verb:

- (36) two parameters for Infl
 a. +affixal or –affixal
 b. strong or weak

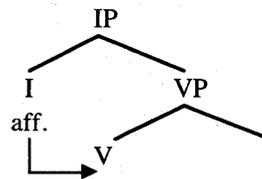
- (37) a. +affixal and strong



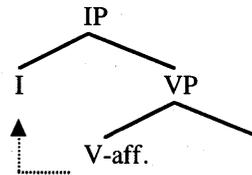
- c. –affixal and strong



- b. +affixal and weak



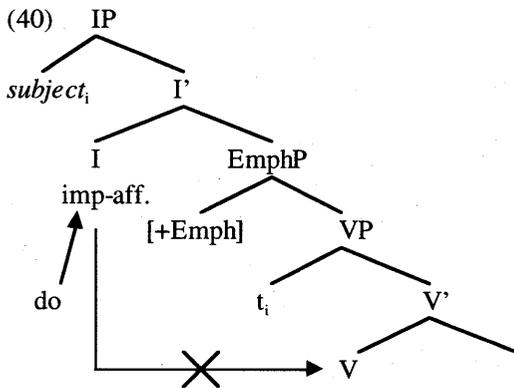
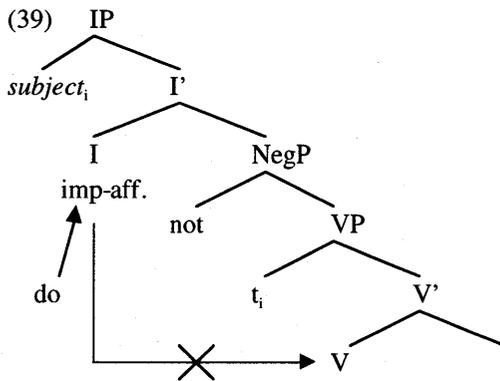
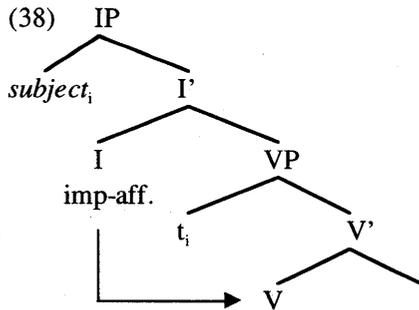
- d. –affixal and weak



Main verbs in PE fall under (37b), auxiliary verbs in PE (37c), and *be* (and all other verbs) up until the early nineteenth century (37a).⁶

So far, we have reviewed Lasnik's (1995) analysis of verbal morphology and the supporting evidence from VP ellipsis, and modified it by introducing the parametric difference to "affixal Infl." We are now in a position to consider verb movement and *do*-support in imperatives. In imperatives, as Potsdam (1996) points out, not only main verbs but also auxiliary verbs fail to undergo V-to-I movement and *do*-support may be invoked. This means that both types of verbs in imperatives fall under the pattern (37b), that is, Infl is +affixal and weak, so affix-lowering takes place if the adjacency condition is satisfied and otherwise *do*-support occurs. Then the partial derivations of neutral, negative and emphatic imperatives are like (38), (39) and (40) respectively:

⁶ According to Lasnik (1995), Swedish exhibits the pattern (37d), in which Infl is –affixal and weak.



In these structures, Infl is +affixal and so there is an imperative affix in I^0 . Since the Infl is weak, the verb stays within VP (before Spell-Out) and the imperative affix lowers and attaches to the verb if adjacency obtains. In (38), where this condition is satisfied, affix-lowering does take place. On the other hand, in (39) and (40), the intervening head Neg^0 or $Emph^0$ blocks the lowering, and *do*-support occurs in order to save the stranded affix.

The claim that Infl is +affixal in imperatives is supported by evidence from VP

ellipsis. See below:

- (41) a. Leave. I don't want to/I won't.
 b. Be quiet. I don't want to/I won't. (Lasnik 1995: 114)

(41) shows that in imperatives VP ellipsis under the condition of "sloppy" identity is possible not only when the verb is a main verb, but also when it is an auxiliary verb.⁷ This contrasts with the situation of non-imperative sentences seen in (31) and (32), in which main verbs, but not auxiliary verbs, can be deleted under "sloppy" identity. Remember that VP ellipsis under "sloppy" identity is possible in the case where verbs enter into a derivation in bare form, that is, Infl is +affixal. Therefore this fact of VP ellipsis supports our analysis of imperatives.⁸

4. Optional I-to-C movement

As seen in (4) and footnote 1, auxiliary *do* in imperatives may be located before or after a subject:

- (42) *don't/do/do not* + S + V
 a. Don't anyone touch my stuff! (Potsdam 1996: 4)
 b. Do SOMEone help him quickly! (ibid.: 4)
 c. ?DO NOT ANY of you touch that cake! It's for the wedding and if
 any of it is missing heads will roll. (ibid.: 5)
- (43) S + *don't/do/do not* + V
 a. Those with luggage don't leave it unattended! (ibid.: 4)
 b. SOMEone do answer the phone! (ibid.: 4)
 c. I know I've done wrong but I can't survive on my own.
 ?Oh please, SOMEbody do not desert me! (ibid.: 5)

It is supposed by Potsdam (1996) that the above data show that *do* in imperatives

⁷ Note that the surface forms of the verbs in each pair are identical, but the features that they carry are different, so the VP ellipsis operates under "sloppy" identity.

⁸ There is a remaining question why Infl in imperatives with an auxiliary verb and the one in non-imperatives with an auxiliary verb exhibit the different parametric characterization, that is, the former is +affixal and weak and the latter is -affixal and strong. Note that this question is a restatement of why auxiliary verbs do not undergo V-to-I movement and rely on *do*-support in imperatives, unlike in non-imperatives. As seen above, the nature of Infl in earlier times is different from either of the present-day Infl's (i.e. it is +affixal and strong), so we can answer the question diachronically by considering the historical changes. See Kato (1999).

optionally moves to C^0 . We have already seen that Potsdam's analysis in which IMP, a clause type feature in C^0 triggering the I-to-C movement, is supposed to be strong fails to deal with the optional movement of *do*. The problem of dealing with the optional movement within the Minimalist Program, where all the operations in a computational system are supposed to be obligatory, is as follows:

- (44) If IMP in C^0 were strong, the pattern (42) would be unacceptable, but if weak, the pattern (43) would be unacceptable.

In this section, a solution to this problem is searched for.

It may be safely assumed that robustly available input for the acquisition of English imperatives contains the following types:⁹

- (45) robustly available input for the acquisition of English imperatives
- a. V (e.g. *Turn off the radio.*)
 - b. S + V (e.g. *You turn off the radio.*)
 - c. *don't* + V (e.g. *Don't be noisy.*)
 - d. *don't* + S + V (e.g. *Don't you be noisy.*)
 - e. *do* + V (e.g. *Do turn off the radio.*)
 - f. *do not* + V (e.g. *Do not be noisy.*)

Out of these types of input, only (45b) and (45d) can be used to determine whether IMP is strong or weak because of the overt subjects, and the rest are not useful in this respect. From the two types of input, however, children cannot uniquely determine the strength of IMP since they give us inconsistent information: (45b), in which the V-feature follows the subject located in [Spec,IP], informs us that the IMP feature is weak (as long as we do not presume an empty element in C^0), whereas (45d), in which the V-feature (of *do*) precedes the subject, informs us that the IMP feature is strong. What do children acquiring English do in the face of the indeterminacy of the strength of IMP?

One possibility is that children finish language acquisition leaving the feature strength in question underspecified. If this is correct, the explanation of the optional I-to-C movement would be as follows:

⁹ The other types of imperatives (i.e. S + *don't* + V, *do* + S + V, S + *do* + V, *do not* + S + V, and S + *do not* + V) are possible but not welcomed in general as mentioned in footnote 1, so they may be included in the input, but not robust.

- (46) IMP is neither strong nor weak in the grammar. The strength of it is underspecified.

If it is assumed that the grammar that has a feature whose strength is underspecified optionally specifies the strength as strong or weak every time the feature enters into a derivation, we can say that when IMP is specified as strong and enters into a derivation, sentences as in (42) are yielded, and when it is specified as weak and enters into a derivation, sentences as in (43) are yielded.

Although this might be a plausible explanation, we would like to avoid adopting it if possible, because to say that a grammar has a feature of underspecified strength is nothing but saying that the grammar has an optional operation. This is against the standard view in the current framework of the Minimalist Program that there is no optional operation in a grammar, and a theory assuming that all the operations in a computational system are obligatory is stronger than a theory assuming that some operations are optional. So another possibility should be explored.

Another possibility to be considered here is that in the face of the indeterminacy of the strength of IMP children acquire two grammars one of which has strong IMP and the other has weak IMP. If this is correct, the explanation of the optional I-to-C movement would be summarized as follows:

- (47) Speakers have two distinct grammars in mind. One of them has strong IMP and the other has weak IMP ("internal diglossia" (see Kroch (1989), Lightfoot (1999: ch.4) and the literature cited there)).

The speakers with two grammars in mind can optionally access either of them. When they access the grammar with strong IMP, they utter imperatives as in (42), whereas when they access the grammar with weak IMP, they utter imperatives as in (43) and the ones in which *do* does not appear. Note that if the notion of internal diglossia is adopted, we can maintain the standard view in the Minimalist Program that there is no optional operation in a (single) grammar, since the grammars that the speakers with the internal diglossia have in mind are the one in which *don't/doldo not* obligatorily raise to C⁰ and the one in which they obligatorily stay in situ. In this respect, the explanation (47) is more desirable than (46).

Let us consider this explanation with the notion of internal diglossia a bit further. Lightfoot (1999: ch.4) claims that internal diglossia, that is, "optional" syntactic operations are diachronically unstable and short-lived, and the reason is the same as the one that morphological doublets (e.g. *awaked* and *awoke*) are diachronically unstable and short-lived: in language acquisition, children are prevented from learning coexisting

forms that are not semantically and functionally distinct by an economy restriction that Aronoff (1976) calls the Blocking Effect. Therefore, if the output produced by one grammar in internal diglossia is not semantically and functionally distinct from the one produced by the other, the Blocking Effect operates, so that one of them wins out and drives away the other, or they differentiate in meaning or function. According to Lightfoot (1999), the average life span of doublets is less than 300 years. Kato (1999) claims that the indeterminacy of the strength of IMP in language acquisition first took place in the eighteenth century, and this means that the internal diglossia of the grammars with strong IMP and weak IMP has lasted for nearly 300 years without one driving away the other. Therefore we should expect that the two grammars in the internal diglossia have differentiated in meaning or function, and, in fact, this expectation is right.

Davies (1986) argues that the two variants of negative and emphatic imperatives, the one with *don't/do* before a subject as in (42) and the one with *don't/do* after a subject as in (43), are not in free variation. First, they differ in the contrastiveness of the subjects. Davies (1986: 94) observes that "the position of the subject after *don't* seems to result in its being viewed as the focus of the negation; what is being rejected is not simply the possibility of a certain action being carried out, but the possibility of it being carried out by one particular agent, as opposed to someone else." For example, in the following pairs, the *b* examples, in which the subjects precede *don't*, are more acceptable:

- (48) a. ?Don't those with luggage leave it unattended.
 b. Those with luggage don't leave it unattended. (Davies 1986: 92)
- (49) a. ?Don't anyone who has a radio use it for the next half-hour.
 b. Anyone who has a radio don't use it for the next half-hour. (ibid.: 92)

This is because in the *a* examples "there is no way in which the addressee designated by the subject could be understood to contrast with others to whom the prohibition might have been, but it is not, issued; one could hardly have told those without luggage not to leave it unattended, or those without radios not to listen to them (ibid.: 94)." The difference in the contrastiveness of the subjects also affects emphatic imperatives. The position of the subject after *do* seems to express the speaker's emphasis on his desire that an act be performed by one particular person or one particular group of people, but not by the other. So in the pair of (50a) and (50b), in which such a contrastive interpretation of the subjects is difficult, the former is more acceptable, whereas in the pair of (51a) and (51b), in which the contrastive interpretation is easy, the latter is more acceptable:

- (50) a. Those with cars do bring them along.
 b. ?Do those with cars bring them along. (Davies 1986: 95)
- (51) a. ?I know the cyclists might not be able to make it, but those with cars do turn up.
 b. I know the cyclists might not be able to make it, but do those with cars turn up. (ibid.: 95)

Second, the position of the subject may also be affected by the scope of the negation or emphasis. See the following pairs:

- (52) a. Don't one of you forget the money.
 b. One of you don't forget the money. (Davies 1986: 97)
- (53) a. Don't some of you talk to him.
 b. Some of you don't talk to him. (ibid.: 97)

(52a) is used when each of the addressees is expected to bring money, whereas (52b) is used when one of them is expected to bring money. Similarly, (53a) is used when none of the addressees is expected to talk, whereas (53b) is used when just some but not all of them are expected not to talk.

Davies's (1986) discussion indicates that the output produced by the grammar with strong IMP and the one produced by the grammar with weak IMP are semantically and/or functionally distinct, and this is consistent with the expectation resulting from the fact that the internal diglossia of the two grammars has lasted for nearly 300 years.¹⁰

5. Conclusion

In this paper, we have investigated the two unique properties of English imperatives. The first property is that auxiliary *do* can cooccur with auxiliary verbs *have/be*. It has been seen that it is explained by means of the slightly modified version of Lasnik's (1995) theory of verbal morphology: in imperatives, verbs including auxiliary verbs do not overtly raise to I⁰ since the parametric values of Infl are specified as +affixal and weak for both main verbs and auxiliary verbs. The second property is that *do* may either precede or follow an overt subject. It has been seen that it is explained by adopting the notion "internal diglossia": the grammar with strong IMP and the one with weak IMP coexist in the mind/brain of English speakers and the former

¹⁰ Kato (1999) gives an analysis of how this internal diglossia emerged in the English grammar in the eighteenth century.

generates imperatives with *do* before the subject and the latter generates imperatives with *do* after the subject.

References

- Arnold, Mark D. (1995) "Notions of Economy in Language Change: The Spread of Periphrastic 'Do'," *NELS* 25/2, 121-134.
- Aronoff, Mark (1976) *Word Formation in Generative Grammar*, MIT Press, Cambridge, Massachusetts.
- Beukema, Frits and Peter Coopmans (1989) "A Government-Binding Perspective on the Imperative in English," *Journal of Linguistics* 25, 417-436.
- Chomsky, Noam (1995) *The Minimalist Program*, MIT Press, Cambridge, Massachusetts.
- Davies, Eirlys (1986) *The English Imperative*, Croom Helm, London.
- Frisch, Stefan (1995) "Evidence for Economy of Projection in Historical Change," *NELS* 25/2, 191-203.
- Han, Chung-hye (1998) "The Structure and Interpretation of Imperatives: Mood and Force in Universal Grammar," (Ph.D. dissertation, University of Pennsylvania).
- Ishikawa, Kazuhisa (1995) "A History of *Not*: The Change from a Phrase to a Head," *English Linguistics* 12, 197-221.
- Kato, Takaomi (1999) "The Synchronic and Diachronic Syntax of English Imperatives," (MA thesis, University of Tokyo).
- Kroch, Anthony (1989) "Reflexes of Grammar in Patterns of Language Change," *Language Variation and Change* 1, 199-244.
- Lasnik, Howard (1981) "Restricting the Theory of Transformations: A Case Study," *Explanation in Linguistics: The Logical Problem of Language Acquisition*, ed. by Norbert Hornstein and David Lightfoot, Longman, London, 152-173.
- Lasnik, Howard (1995) "Verbal Morphology: *Syntactic Structures* Meets the Minimalist Program," *Evolution and Revolution in Linguistic Theory: Essays in Honor of Carlos Otero*, ed. by H. Campos and P. Kempchinsky, Georgetown University Press, Washington D.C., 251-275 (reprinted in Howard Lasnik (1999) *Minimalist Analysis*, Blackwell, Oxford, 97-119).
- Lightfoot, David (1997) "Shifting Triggers and Diachronic Reanalyses," *Parameters of Morphosyntactic Change*, ed. by Ans van Kemenade and Nigel Vincent, Cambridge University Press, Cambridge, 253-272.
- Lightfoot, David (1999) *The Development of Language: Acquisition, Change, and Evolution*, Blackwell, Oxford.

- McCawley, James D. (1998) *The Syntactic Phenomena of English*, 2nd ed., University of Chicago, Chicago.
- Platzack, Christer and Inger Rosengren (1998) "On the Subject of Imperatives: A Minimalist Account of the Imperative Clause," *The Journal of Comparative Germanic Linguistics* 1, 177-224.
- Pollock, Jean-Yves (1989) "Verb Movement, Universal Grammar, and the Structure of IP," *Linguistic Inquiry* 20, 365-424.
- Potsdam, Eric (1996) "Syntactic Issues in the English Imperatives" (Ph.D. dissertation, University of California Santa Cruz).
- Roberts, Ian G. (1993) *Verbs and Diachronic Syntax: A Comparative History of English and French*, Kluwer Academic Publishers, Netherlands.
- Warner, Anthony R. (1995) "Predicting the Progressive Passive: Parametric Change within a Lexicalist Framework," *Language* 71, 533-57.
- Zanuttini, Raffaella (1996) "On the Relevance of Tense for Sentential Negation," *Parameters and Functional Heads: Essays in Comparative Syntax*, ed. by Adriana Belletti and Luigi Rizzi, Oxford University Press, Oxford, 181-207.