

On the clitic switch in Greek imperatives*

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The paper investigates the ban on negative imperatives and clitic placement in Greek imperative constructions, focusing on a difference in the order of dative and accusative clitics in the preverbal position in indicatives and the postverbal position in imperatives, dative-accusative being the only order allowed in the preverbal position while both the dative-accusative and the accusative-dative order are allowed in the postverbal position. It is argued that the clitic switch in the postverbal position in imperatives is a PF phenomenon, which is however accomplished without PF movement. More precisely, it arises as a result of pronunciation of lower copies of clitics motivated by PF considerations. This is in line with Bošković's (2001a) approach to PF word reordering, on which PF considerations are allowed to affect word order but without actual PF movement. The analysis presented in the paper does not require positing any differences between indicatives and imperatives in the syntax of clitic placement and verb movement.

1. Introduction

In this paper I examine a difference in the order of dative and accusative clitics in the preverbal and postverbal clitic positions in Greek. While dative-accusative is the only order allowed in the preverbal position both the dative-accusative and the accusative-dative order are allowed in the postverbal position. I argue that the accusative-dative clitic switch in the postverbal position is a PF phenomenon, which is however accomplished without PF movement. This is in line with the approach to PF word reordering argued for in Bošković (2001a), on which PF considerations are allowed to affect word order but without actual PF movement. The ban on negative imperatives is also accounted for in line with this approach to PF word reordering. In section 2 of the paper I discuss Greek imperatives, an environment where the clitic switch takes place, focusing on clitic placement and the impossibility of negative imperatives in Greek. In section 3 I turn to the clitic switch in imperatives. Section 4 is the conclusion.

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2. Imperatives

It is well known that a number of languages disallow negative imperatives. Thus, the ban on negative imperatives holds for Greek, Romanian, Spanish, Italian, Catalan, Sardinian, and Latin. The ban is illustrated by the Greek (Gr) data in (1).¹

- (1) a. *Diavase!* Gr
 read.Imp
 b. **Den/mi diavase!*
 Neg read.Imp
 ‘Don’t read!’

Instead of an imperative verb form, Greek uses a subjunctive in a negative imperative context, i.e. as a surrogate imperative.²

- (2) *Na mi diavazis!* Gr
 Subj.Mark Neg read.Subj
 ‘Don’t read!’

There are a number of accounts of the ban on negative imperatives cross-linguistically. The reader is referred to Han (1999), Isac and Jakab (2001), Laka (1994), Miyoshi (2002), Rivero (1994b), Rivero and Terzi (1995), Tomić (2001), and Zanuttini (1994, 1997) for accounts of the ban on negative imperatives.

Interestingly, a similar phenomenon exists in English. Just like the languages in question, English also has a verbal form that is not allowed to co-occur with negation. Whereas the languages in question disallow negative imperative verbs (I will use Greek as a representative of these languages), English disallows negative finite verbs, more precisely, finite main verbs. (I will refer to them as indicatives.) Like Greek, English switches to another verbal form in the environment in question, namely, infinitive.

- (3) a. **John not laughed.*
 b. *John did not laugh.*

¹ The ban is not universal. For example, Serbo-Croatian, Slovenian, Bulgarian, Macedonian, Albanian, German, and Basque allow negative imperatives.

² Languages differ with respect to which verbal forms they use as surrogate imperatives. The options are subjunctive, infinitive, indicative, and gerund. For relevant discussion, see especially Zanuttini (1997).

Abstractly, we have the same pattern in both Greek and English. Both languages disallow a particular verbal form to co-occur with negation. In the relevant negative context, they switch to another verbal form. The parallelism between Greek and English is generally not noted in the existing accounts of the ban on negative imperatives, which appear to have nothing to say about it. (That is, the existing analyses of the ban on negative imperatives are not readily extendable to the ban on negative indicatives in English.) One exception is Miyoshi (2002), who provides a uniform account of the ban on negative imperatives in Greek and the ban on negative indicatives in English. More precisely, he extends a particular account of the ban on negative indicatives in English to the ban on negative imperatives in Greek. The account in question is probably the oldest surviving analysis of the transformational grammar, namely Chomsky's (1957) affix hopping analysis of verbal morphology in English, revived recently in Hale and Marantz (1993), Bobaljik (1994, 1995), and Lasnik (1995), and extended to several other phenomena in Bošković (2001a,b). In the recent instantiations, the mechanism of affix hopping, often referred to as PF merger (I will use the two terms interchangeably), is treated as a morphophonological rule that involves merger between an affix and its host in PF under adjacency. Merger/affix hopping is blocked by intervening phonologically realized elements, but not by phonologically null elements such as traces and *pro*. To illustrate how the mechanism works, consider (4a-c), whose structures before PF merger and *Do-Support* are given in (5).

- (4) a. John laughed.
 b. *John not laughed.
 c. John did not laugh.
- (5) a. $[_{IP} \text{John}_i \text{ I (ed) } [_{VP} t_i \text{ laugh}]]$
 b. $[_{IP} \text{John}_i \text{ I (ed) } [_{\text{NegP}} \text{not } [_{VP} t_i \text{ laugh}]]]$

Assume that English I is a verbal PF affix, hence must merge with a verbal element in PF under adjacency. The adjacency requirement is not met in (5b) due to the intervening negative head, which blocks PF merger. *Do-Support*, a last resort operation, then takes place to save the stranded affix, deriving (4c). In (5a), the merger is not blocked since no phonologically realized element intervenes between I and the verb. I then merges with the verb, deriving (4a). The crux of the analysis is that indicatives cannot cooccur with negation in English because the cooccurrence results in a violation of the Stranded Affix Filter, which filters out constructions with stranded affixes.

Miyoshi (2002) puts forward the same explanation for the ban on negative imperatives. He proposes that imperatives in languages like Greek contain a

copy of a non-trivial chain can be pronounced instead of the head of the chain iff this is necessary to avoid a PF violation. I will show how the proposal works with respect to the analysis of the basic cliticization pattern in Bulgarian (B) and Macedonian (M) from Bošković (2001a). Consider (9).⁵

- (9) a. *Petko mi go dade.* B: OK Mac: OK
 Petko me.Dat it.Acc gave
 ‘Petko gave it to me.’
- b. *Mi go dade.* B:* Mac: OK
- c. *Dade mi go.* B: OK Mac: *

The contrast between Bulgarian and Macedonian (9b) indicates that Bulgarian clitics must encliticize, whereas Macedonian clitics procliticize. Macedonian clitics always precede the verb in the context in question. Bulgarian clitics precede the verb unless preceding it would result in a violation of their enclitic requirement. In that case they follow the verb. As discussed in Bošković (2001a), this state of affairs can be straightforwardly accounted for under Franks’s (1998) proposal that a lower copy of a non-trivial chain can be pronounced instead of the head of the chain iff this is necessary to avoid a PF violation, given that a copy of pronominal clitics is present both above and below the verb (see Bošković 2001a for discussion of the precise position of these copies). This approach straightforwardly captures the generalization that the verb can precede a clitic in Bulgarian only when no other lexical material is located in front of the clitic. Only in this situation will we be able to pronounce the lower copy of the clitic, which is located below the verb. (Pronunciation of the head of the clitic chain in (10b) would lead to a PF violation since the clitic, which must encliticize to its host, cannot be properly prosodically supported.) If there is lexical material preceding the clitic in its raised position, the head of the chain of clitic movement can be, hence has to be pronounced.

- (10) a. X clitic V ~~clitic~~

⁵ I ignore here certain non-finite clauses in Macedonian, which raise additional questions. For relevant discussion, see Bošković (2001a), Caink (1998), Franks (1998, 2000), Franks and King (2000), Legendre (1998, 1999), and Tomić (1996, 1997, 2001), among others. For more general discussion of clausal cliticization in Bulgarian and Macedonian, see Avgustinova (1994), Bošković (2001a), Caink (1998), Čašule (1997), Dimitrova-Vulchanova (1995), Dimitrova-Vulchanova and Hellan (1999), Ewen (1979), Franks (1998), Franks and King (2000), Friedman (1993), Legendre (1999, 2000), Penčev (1993), Rå Hauge (1976), Rivero (1997), Rudin (1997), Tomić (1996, 1997, 2000), among others.

b. *clitic V clitic*

Since in Macedonian nothing goes wrong in PF if we pronounce the head of the clitic chain, we always have to pronounce the head of the clitic chain, located above the verb. As a result, the V-clitic order is underivable in Macedonian.

(11) (X) clitic V ~~clitic~~

The contrast in the acceptability of (9b-c) in Bulgarian and Macedonian, as well as the role of phonology in the possibility of the V-cl order in Bulgarian, is thus straightforwardly captured.

Returning to (7)-(8), Miyoshi (2002) observes that the affix hopping analysis of imperatives, coupled with the proposal that a lower member of a non-trivial chain be pronounced if this is necessary to avoid a PF violation, provides a straightforward account of the V-clitic switch in (8). He suggests that imperatives and indicatives in Greek do not differ with respect to clitic placement in the syntax. They both have the clitic-V order, with a lower copy of the pronominal clitic following the verb. In indicatives, the higher copy of the clitic can be, hence must be pronounced. On the other hand, in imperatives pronunciation of the higher copy of the clitic leads to a Stranded Affix Filter violation: the clitic disrupts the adjacency between F and V, necessary for F to hop onto the verb, resulting in a PF violation. The violation can be avoided if we pronounce a lower copy of the clitic, which follows the verb.

(12) F \neq *diavase to*. Gr

Since the verb and F are adjacent in (12), affix hopping can take place. Lower pronunciation of the clitic is licensed in (12), just as in Bulgarian (9c), because it is necessary to avoid a PF violation.⁶ The affix hopping+copy and delete analysis thus provides us with a principled account of the clitic-V switch in languages that have a ban on negative imperatives. In fact, the clitic-V switch and the ban on negative imperatives are accounted for in essentially the same way.⁷ In the next section I will

⁶ Bobaljik (1995) and Bošković (2001a) also propose analyses in which a lower copy of X is pronounced in order to prevent X from blocking affix hopping.

⁷ Notice that the analysis does not necessarily posit a two-way correlation between the clitic-V switch and the ban on negative imperatives. Thus, Miyoshi argues that in some Italian surrogate imperatives, which do not contain the F affix, the V-clitic order arises as a result of V-movement. (The same appears to hold for Cypriot Greek indicatives that have V-clitic order, as discussed in Terzi 1999. Note that the accusative-dative clitic switch, discussed in the next section, is not expected to occur in constructions in which the V-clitic order arises as a result of V-movement under the analysis developed below since in such constructions the clitics are pronounced in the

examine a peculiar clitic switch in Greek imperatives and show that the clitic switch receives a principled account under the affix hopping+copy and delete analysis of Greek imperatives.

3. Accusative-dative clitic switch

It is well-known that the dative clitic must precede the accusative clitic when the clitics precede the verb, as in the following constructions involving an indicative verb.⁸

- (13) a. *Mou to diavase.* Gr
 me.Datit.Acc read.3Sg
 ‘S/he is reading it to me.’
- b. **To mou diavase.*

Interestingly, Warburton (1977:261), Joseph and Philippaki-Warburton (1987:213), and Terzi (1999) observe that in imperatives, where, as discussed above, clitics follow the verb, both the dative-accusative and the accusative-dative order are possible.⁹

highest position (see the discussion below). As shown in Terzi 1999, it indeed does not occur in Cypriot Greek indicatives.) It is also worth noting that in Bošković (2001a) I show that the affix hopping+copy and delete analysis also leaves room for an F-affix language that has the clitic-V switch but no ban on negative imperatives. (The language in question is Macedonian. See Bošković 2001a for explanation why the presence of the F affix does not make negative imperatives impossible in Macedonian.)

⁸ *Mou* would actually be more appropriately glossed as genitive. (Genitive and dative case have collapsed in Modern Greek.)

⁹ Gerunds behave like imperatives in this respect.

- (i) a. *Diavazondas mou to...* Gr
 reading me.Dat it.Acc
 ‘Reading it to me...’
- b. *Diavazondas to mou...*

The analysis of the clitic switch in imperatives proposed below appears extendable to gerunds. It is worth noting here that, in contrast to imperatives, gerunds can be negated.

- (ii) *Mi diavazondas...* Gr
 not reading

There are two ways of accounting for (i-ii). One possibility is that gerunds also contain an affix head, which is in gerunds located below the negation but above the clitics. As a result, clitics, but not negation, block affix hopping. Clitics then must be pronounced in a lower position.

- (14) a. *Diavase mou to!* Gr
 read me.Dat it.Acc

(iii) Mi F ~~clitics~~ V clitics

Another possibility is that the V-clitic order with gerunds arises as a result of V-movement rather than a lower pronunciation of clitics (see in this respect Rivero 1994a and Terzi 1999; see also the discussion in footnote 7), in which case the F affix would not have to be present in gerunds. The availability of the clitic switch favors the pronunciation of a lower copy analysis. We will see below that the pronunciation of lower copies of clitics is what licenses the clitic switch in imperatives. Adopting the pronunciation of a lower copy analysis of (i-ii) then makes possible a uniform account of the clitic switch in gerunds and imperatives.

It is worth emphasizing here that the clitic switch is fully productive in Greek. Terzi (1999) observes that it is not restricted to the 1Sg clitic *mou*, which is the case with French, where the switch occurs only with *moi*. (In Greek, all dative-accusative clitic combinations found in the preverbal position can occur in either order in the postverbal position in imperatives as well as gerunds.)

- (iv) a. *Tis to diavasa.* Gr
 her.Dat it.Acc read
 'I read it to her.'
- b. **To tis diavasa.*
- c. *Diavase tis to!*
 read her.Dat it.Acc
- d. *Diavase to tis!*
- (v) a. *Donnez-moi- le!* Fr
 give me.Dat it.Acc
 'Give it to me!'
- b. *Donnez-le-moi!*

Terzi (1999) and Laenzlinger (1994) observe several additional peculiarities about the French clitic switch and more generally, *moi*. For one thing, *moi* is not used in the preverbal clitic position.

- (vi) *Vous me/*moi le donnez.* Fr
 you me.Dat it.Acc give
 'You give it to me.'

Furthermore, *moi* exhibits non-clitic behavior in that it can stand alone and be conjoined with NPs, which is not the case with Greek clitics. Given the exceptional behavior of *moi* (from the point of view of Greek clitics) and the fact that the switch is limited to *moi* in French, I follow Terzi (1999) in assuming that the analysis of the clitic switch in Greek imperatives should not be extended to the case of French, which should be tied to some special property of *moi*.

b. *Diavase to mou!*

Notice that the imperative clitic switch is not a general property of languages that have a ban on negative imperatives. Thus, the clitic switch is not possible in Spanish.

- (15) a. *Dámelo!* Sp
 give-me.Dat-it.Acc
 ‘Give it to me!’
- b. **Dálome!*

Two questions then arise. First, why is the clitic switch possible in Greek? Second, why does the clitic switch not occur in languages like Spanish, whose clitics and imperatives are in other respects quite similar to Greek. Recall that both languages display the ban on negative imperatives, which is related to the postverbal position of clitics in imperatives in the languages in question. In this section I will show that the peculiar clitic switch in Greek imperatives receives a principled explanation under the affix hopping+copy and delete analysis of Greek imperatives. The proposed analysis will answer both of the questions raised above. (For alternative analyses of the clitic switch in Greek, see Terzi 1999 and Hegarty 1999.)

I will first make a short digression to summarize the analysis of Bulgarian double object clitic constructions from Bošković (2001a), since we will be using several mechanisms from this analysis in the discussion of Greek below.

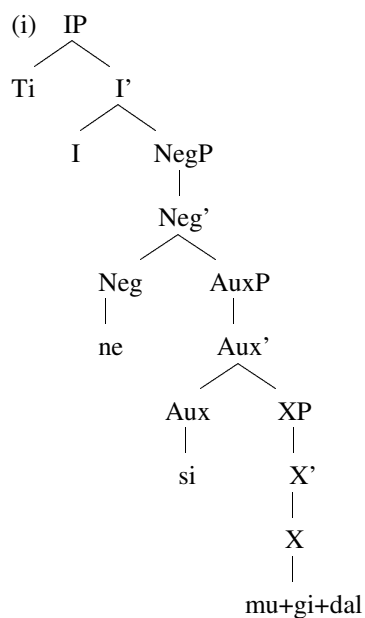
(16) is an example of a double object clitic construction from Bulgarian, which contains negative, auxiliary, and pronominal clitics.

- (16) *Ti ne si mu gi dal.* B
 you Neg.Cl are.2Sg.Cl him.Dat.Cl them.Acc.Cl given
 ‘You haven’t given them to him.’

My (2001a) analysis of (16) is crucially based on two assumptions: (a) Head-adjunction proceeds to the left, in accordance with Kayne (1994);¹⁰ (b) Clitics are

¹⁰ Previous analyses (see, for example, Franks and King 2000, Rudin 1997, Rudin et al 1999, Tomić 1996), which located the negative clitic and the auxiliary clitic in the head positions of NegP and AuxP, as shown in the intermediate structure in (i), assumed massive rightward head adjunctions.

ambiguous XP/X^0 elements, as suggested in Chomsky (1995) (see also Bošković 1997), which in the Bare Phrase Structure framework means that they do not branch, hence cannot take complements.¹¹ A consequence of the latter assumption is that the clitic auxiliary can no longer be analyzed as a head taking a phrasal complement. (It would then be branching, hence by definition no longer a clitic.) Rather, the auxiliary clitic is located in the specifier of a null head which itself takes a phrasal complement. As a result, the auxiliary clitic remains non-branching, hence ambiguous between a head and a phrase in the Bare Phrase Structure Framework. The negative clitic marker is treated in the same way. Consider how (16) is then derived, given the standard assumption that Bulgarian clitics and the verb are all generated in separate positions and then form a complex head during the derivation in the syntax, which I will refer to as the extended clitic cluster



Thus, under these analysis, the complex head consisting of the pronominal clitics and the verb right adjoins to the auxiliary clitic, which is followed by the complex auxiliary+pronominal clitics+V head right adjoining to the negative clitic. Rightward adjunction was deemed to be necessary to get the right order within the complex clitics+V head. (Notice that, in contrast to leftward head adjunction, rightward head adjunction does not change word order.)

¹¹ This can be interpreted as a way of capturing the intuition that clitics have less structure than their non-clitic counterparts (assuming that the latter do branch), a position argued for convincingly in Cardinaletti and Starke (1999).

(ECC).¹²

(17) *Ti* [_{NegP} *ne* [_{Neg'} [_{AuxP} *si* [_{Aux'} [_{VP} *mu* [_{V'} *dal gi*]]]]]]] B

Under the analysis presented in Bošković (2001a,2002a), the verb moves up through the empty heads. The clitics left-adjoin to the verb instead of the verb right adjoining to the clitics, as in the analyses discussed in footnote 10.¹³ It is crucial that a clitic left-adjoins to the verb (or the clitic+V complex) as soon as the adjunction becomes possible, i.e. as soon as the verb moves to a position c-commanding the clitic.¹⁴ This gives us the following order of adjunctions: accusative-dative-auxiliary-negative clitic, which in turn gives us the correct word order within the ECC: negation-auxiliary-dative-accusative-V. The derivation is given in (18). (I ignore traces of clitics.)

(18) a. *Ti* [_{XP} [_{NegP} *ne* [_{Neg'} [_{AuxP} *si* [_{Aux'} [_{VP} *mu* [_{V'} *dal gi*]]]]]]] B
 b. *Ti* [_{XP} [_{NegP} *ne* [_{Neg'} [_{AuxP} *si* [_{Aux'} [_{VP} *mu* [_{V'} *gi+dal*]]]]]]]
 c. *Ti* [_{XP} [_{NegP} *ne* [_{Neg'} [_{AuxP} *si* [_{Aux'} [*gi+dal*]_i [_{VP} *mu* [_{V'} *t_i*]]]]]]]
 d. *Ti* [_{XP} [_{NegP} *ne* [_{Neg'} [_{AuxP} *si* [_{Aux'} *mu*+ [*gi+dal*]_i [_{VP} [_{V'} *t_i*]]]]]]]
 e. *Ti* [_{XP} [_{NegP} *ne* [_{Neg'} [*mu*+ [*gi+dal*]_i]_j [_{AuxP} *si* [_{Aux'} *t_j* [_{VP} [_{V'} *t_i*]]]]]]]
 f. *Ti* [_{XP} [_{NegP} *ne* [_{Neg'} [*si*+ [*mu*+ [*gi+dal*]_i]_j [_{AuxP} [_{Aux'} *t_j* [_{VP} [_{V'} *t_i*]]]]]]]

¹² In (17) I base-generate pronominal clitics within VP. (For ease of exposition I disregard the VP Internal subject hypothesis and object agreement phrases. Following Marantz's (1993) analysis of double object constructions, I generate the dative in the specifier, and the accusative in the complement position of the VP where *dal* is generated. Note, however, that the analysis can be restated in small-clause approaches to double object constructions.) Bulgarian pronominal clitics are often assumed to be base-generated outside of the VP on account of the fact that the language allows clitic doubling. (The same holds for Greek.) However, there are several analyses of clitic doubling that do not require base-generation of pronominal clitics outside of the VP. Thus, Aoun (1999) argues convincingly that doubled NPs are not located in θ -positions within VP, which leaves these positions available for clitics. (Aoun analyzes doubles as subjects of predication.) Hurtado (1984) also argues that doubles are not located in VP-internal θ -positions. (He treats them as right-dislocations.) Note, however, that it is shown in Bošković (2001a) that the gist of the analysis of the complex ECC head formation, given above, can be preserved even if Bulgarian pronominal clitics are base-generated outside of the VP. Since this alternative involves a somewhat more complex derivation I keep to the simpler alternative in the text for ease of exposition.

¹³ If multiple adjunction to the same head is not allowed, as argued by Kayne (1994), each clitic would adjoin to the left-most element in the ECC.

¹⁴ I assume here a c-command requirement on overt movement, which means that clitic adjunction to a verb is an option only after the verb moves to a position c-commanding the clitic.

- g. Ti [_{XP}[_{X'} [_{si}+_{[mu}+_[gi+dal]_i]_j]_k [_{NegP} *ne* [_{Neg'} _{t_k} [_{AuxP} [_{Aux'} _{t_j} [_{VP} [_{V'} _{t_i}]]]]]]]]]]
- h. Ti [_{XP}[_{X'} *ne*+_{[si}+_{[mu}+_[gi+dal]_i]_j]_k [_{NegP} [_{Neg'} _{t_k} [_{AuxP} [_{Aux'} _{t_j} [_{VP} [_{V'} _{t_i}]]]]]]]]]]

Obviously, if the accusative clitic could wait for the verb to move to its final landing site, call it X, and then adjoin to it, we would get a wrong word order. There are several ways to block this derivation or, more generally, to force head adjunctions to take place as early as possible. Notice first that the accusative clitic undergoes longer movement if it adjoins to the verb after the verb moves to X, than it does if it adjoins to the verb while the verb is still in its base-generated position. It is natural, then, that Economy of Derivation, which requires that all conditions be met through the shortest movement possible, blocks the former derivation. In fact, Economy of Derivation would force each clitic to undergo head adjunction as soon as their target moves to a position c-commanding it, a desirable result. Another way of achieving the desired result is to appeal directly to Pesetsky's (1989) Earliness Principle, which requires that all movement take place as early as possible. Adopting Bošković's (1998) version of Chomsky's (1995) definition of strong features (i.e. features that drive overt movement), according to which strong features must be checked as soon as possible, would also lead to the desired result.

Returning now to (16), the final structure of which is given in (18h), notice that nothing goes wrong in PF, if all relevant elements are pronounced in their highest position. More precisely, all clitics are properly supported, and since they can be pronounced in their highest position, they must be pronounced in their highest position. What happens in a *pro*-drop sentence, where pronunciation of clitics in the highest position would lead to a violation of their enclitic requirement, which I assume is a PF requirement? Since Bulgarian clitics must encliticize, under the copy and delete approach they will be pronounced in a lower position, where the enclitic requirement can be satisfied. (Recall that lower pronunciation is possible only if it is necessary to satisfy a PF requirement.) Franks (1998) proposes that if an element cannot be pronounced in the highest position for PF reasons, it is pronounced in the next highest position.¹⁵ Example (19), the *pro*-drop version of (16),¹⁶ provides evidence for the proposal. The structure of (19) is given in (20), with copies in place of traces.

¹⁵ In Bošković (2001a) I reach the same conclusion with respect to head movement, which is what we are dealing with in this paper, but leave open the issue with respect to XP-movement.

¹⁶ The negation is omitted to simplify the structure.

- (19) *Dal si mu gi.* B
 given are him.Dat them.Acc
 ‘You have given them to him.’
- (20) $\text{pro } si_m + [\mu_1 [gi+dal]_j]_k \text{ } [_{\text{AuxP}} si_m [_{\text{Aux}'} [\mu_1 [gi+dal]_j]_k [_{\text{VP}} \mu_1 [_{\text{V}'} [gi+dal]_j gi_i]]]]]$

The main verb can be, hence must be pronounced in the highest position in (20). This is not the case with the auxiliary and the pronominal clitics. (Pronunciation in the highest position would violate the enclitic requirement on the clitics in question.) If the clitics are pronounced in the next highest position we get the right word order, as shown in (21).¹⁷

- (21) $\text{pro } si_m + [\mu_1 [gi+dal]_j]_k \text{ } [_{\text{AuxP}} si_m [_{\text{Aux}'} [\mu_1 [gi+dal]_j]_k [_{\text{VP}} \mu_1 [_{\text{V}'} [gi+dal]_j gi_i]]]]]$

However, if we can pronounce clitics in any lower position, we derive ungrammatical constructions like (22), as shown in (23).

- (22) **Dal si gi mu.* B
- (22) $\text{pro } si_m + [\mu_1 [gi+dal]_j]_k \text{ } [_{\text{AuxP}} si_m [_{\text{Aux}'} [\mu_1 [gi+dal]_j]_k [_{\text{VP}} \mu_1 [_{\text{V}'} [gi+dal]_j gi_i]]]]]$

Based on the above derivation, I follow Franks (1998) in assuming that, when an element cannot be pronounced in the highest position for PF reasons, it is pronounced in the next highest position where all relevant PF requirements can be met.

We are now ready to return to the clitic switch in Greek imperatives. Let us assume that, with respect to clitic placement in the syntax, Greek imperatives are derived just like indicatives, which means that they have the dative-accusative-V order. This is the simplest analysis, since nothing special needs to be said about the syntax of clitics in imperatives. Recall now that in imperatives, clitics cannot be pronounced in the highest position. If they are pronounced in the highest position they block PF merger of the affix head F and the verb. The highest pronunciation, which takes place in indicatives (where it is possible, hence forced) and which gives the dative-accusative order as the only possibility, is thus blocked in impe-

¹⁷ Based on this type of construction, I argued in Bošković (2001a) that scattered deletion, where parts of a constituent are pronounced in different positions, is possible. (For relevant discussion, see also Ćavar and Fanselow 1997 and Nunes 1999.)

ratives. Clitics then must be pronounced in a lower position in imperatives. I would like to capitalize on the lower pronunciation and propose that this is what licenses clitic switch. This makes clitic switch ultimately a PF phenomenon: it arises as a result of lower pronunciation forced by PF considerations. There is nothing special about it in the syntax. This is then the outline of the analysis. With respect to clitic placement, imperatives are derived just like indicatives in that in the highest syntactic position, the order of clitics in a double object clitic construction is dative-accusative. In the current system, all we need in order to accomplish clitic switch is that in a lower position the order can be accusative-dative. Since in indicatives the highest copy of the pronominal clitics must be pronounced, we still get only the dative-accusative order in indicatives. On the other hand, since in imperatives lower copies of the pronominal clitics are pronounced for reasons discussed above, we can get the accusative-dative order in imperatives.

Let us now see how the above analysis can be instantiated. For ease of exposition, I will flesh out the analysis with respect to the approach to ECC formation summarized above for Bulgarian. The analysis is, however, compatible with a number of analyses of Greek cliticization, i.e. it can be easily modified to fit alternative analyses of Greek cliticization.¹⁸ I emphasize that my primary concern is not to provide a general account of cliticization of Greek. For this reason, I leave out details concerning where clitics are base-generated and exactly where ECC formation takes place.¹⁹

Recall that in the analysis of double object clitic constructions, summarized above, we first form the accusative-V complex head, and then add the dative clitic to it, forming a dative-accusative-V head. The simplest way of instantiating the above proposal regarding clitic switch is as follows: the accusative-V complex undergoes an additional movement right before the dative is added to it.²⁰ Furthermore, once the dative-accusative-V complex is formed, no further movement of the

¹⁸ For analyses of clitic placement in Greek, see Warburton (1977), Terzi (1992, 1999), Anagnostopoulou (1994), Rivero (1994a), Philippaki-Warburton (1994), Philippaki-Warburton and Spyropoulos (1999), Rivero and Terzi (1995), Hegarty (1999), Tsimpli (1999), Joseph (2001), and Condoravdi and Kiparsky (2001), among others.

¹⁹ In fact, as noted in footnote 12, in Bošković (2001a) I present an alternative analysis of the double object clitic construction in Bulgarian in which the pronominal clitics are base-generated, and the ECC formation takes place, in different positions. The gist of the analysis of the ECC formation summarized in the text is, however, preserved in the alternative, which shows that it is compatible with more than one set of assumptions concerning the exact location of pronominal clitics and ECC formation.

²⁰ See below for the discussion of the nature of this movement.

complex head in question takes place. This gives us the following abstract pattern:

(24) [Dat+[Acc+V]] [Acc+V] Dat...

Since in indicatives, the highest copy of the clitics can be, hence must be pronounced we still get the dative-accusative order in indicatives.

(25) [Dat+[Acc+V]] [~~Acc+V~~] ~~Dat~~...

Recall, however, that in imperatives, the highest copies cannot be pronounced since this pronunciation would leave the imperative affix head stranded, which would result in a PF violation. As discussed above, when the highest copy of a particular element cannot be pronounced for PF reasons, the next highest copy is pronounced, provided that this pronunciation does not lead to a PF violation. Given this, the following deletions take place in the abstract pattern (24).²¹

(26) F [~~Dat+[Acc+V]] [~~Acc+V~~] Dat...~~

We thus derive the V-accusative-dative order, i.e. the clitic switch.

Several properties of the current analysis are worth emphasizing. Since the clitic switch arises as a result of a lower pronunciation of clitics, which takes place only when clitics are pronounced postverbally, the switch is limited to the postverbal position, a desirable result.²² In spite of the difference with respect to dative-accusative clitic order between constructions with preverbal clitics, such as indicatives, and constructions with postverbal clitics, such as imperatives, there is no need to posit a syntactic difference in the behavior of the clitics or the verb between indicative and imperative constructions. The clitic switch arises as a result of a lower pronunciation of clitics forced by PF considerations (more precisely, the presence of a PF affix in the structure). In other words, the switch is a PF phenomenon. Notice also that the F affix is ultimately responsible for the ban on negative imperatives, the postverbal position of clitics in imperatives, as well as the clitic switch. In this sense, the three phenomena receive a uniform account.

There are two issues that still need to be addressed. Recall that some lan-

²¹ The imperative affix head F is added to the structure.

²² As noted in footnote 9, the switch can also take place in gerunds, where clitics are again pronounced postverbally. The above analysis of the clitic switch in imperatives is readily extendable to gerunds. Recall that the switch is never possible in the preverbal clitic position, a state of affairs which is straightforwardly captured under the current analysis. (Note that the clitic switch is also crucially tied to the postverbal clitic position in Terzi 1999, though for very different reasons.)

guages that have affix F, for example Spanish, disallow clitic switch. Furthermore, the switch is optional even in Greek. The two issues are related. Apparently, we need an alternative derivation that does not lead to the clitic switch. In Spanish, this derivation is the only possibility. In Greek, it is an option, along side the derivation discussed above. Before discussing the issue at hand, I will flesh out the above analysis of the clitic switch in more detail, which will help us resolve the issue raised above concerning the existence of the postverbal dative accusative order in both Greek and Spanish.

Recall that the ECC formation must take place as soon as possible, i.e. as soon as a c-command relation is established between the target and the moving element. In (24), the adjunction of the dative clitic to the accusative+V complex is delayed. The question is why. To make the question more precise, let us assume that the accusative+V complex in (24) has moved to adjoin to a head X, the precise identity of which I leave open here.

(27) [XP Acc+V+X...Dat...]

Apparently, the dative is not allowed to join the complex accusative clitic+V head while the head is still within the XP. Rather, it has to wait until the accusative+V head moves out of the XP to a higher head position and then adjoins to it. Above, I gave several reasons why the complex head formation in question has to take place as soon as possible, one based on Economy of Derivation (forming the cluster as soon as possible also means forming it through the shortest movement possible) and one based on Pesetsky's (1989) Earliness Principle, relatable to Chomsky's (1995) virus approach to strength, which requires movement to take place as soon as possible as a matter of principle. Whatever is the reason for forcing ECC cluster formation to take place as soon as possible in the general case, it has to be overridden in (27). This can be easily achieved. The Earliness Principle is a preference principle, i.e. it requires movement to be as early as *possible*. If the option that would result in earlier movement is for some reason itself blocked, it would not necessarily block an option that delays the movement via the Earliness Principle. The same holds for the Economy of Derivation approach: if blocking the shorter movement option results in taking it out of the comparison set, i.e. more formally, if the shorter movement option leads to nonconvergence, the option becomes irrelevant when it comes to the Economy of Derivation comparison. Returning to (27), the question is then how can we block the shorter movement option, on which the dative would join the ECC while the cluster is still within the XP?

Some heads appear not to tolerate checking by datives within their maximal projection. Consider, for example, the availability of quirky subjects, which are

typically dative, cross-linguistically. Languages differ with respect to whether they allow such subjects for reasons that are still quite mysterious. It appears that in some languages I simply does not tolerate feature checking within IP by datives. I will refer to intolerance to datives as Dative Sickness (not to be confused with Dative Sickness from traditional Icelandic grammar, which refers to a different phenomenon.) The suggestion is then that X in (27) is also characterized by Dative Sickness, so that the adjunction of the dative to the complex accusative+V+X head within the XP is not an option. I will leave open here the exact nature of Dative Sickness – a phenomenon more general than what we are dealing with in (27) – as well as the exact nature of X. A tempting possibility that I will not explore further here is that X is AgrDO (i.e. agreement for direct object), which would make its Dative Sickness more intuitive. (In fact, AgrDO might be inherently characterized with Dative Sickness.)²³

Let us now return to the question of why the dative-accusative order is also possible in the postverbal position in Greek and the related question of why this is the only possible order in Spanish. There are two ways of capturing this state of affairs. First, we could assume that X is only optionally present in the structure. Without the presence of X, the dative-accusative-V complex will be immediately formed. In other words, the lack of X implies the absence of the additional movement of the accusative+V complex which makes the clitic switch possible. Without it, even when the clitics have to be pronounced following the verb, which is the case in imperatives, they still have to be pronounced in the dative-accusative order, given that the next highest copy of any lexical item is pronounced when the highest copy itself cannot be pronounced for PF reasons, as discussed above.²⁴ Depending on whether or not X is present in the structure we then get either the dative-accusative or the accusative-dative order in the postverbal position. What about Spanish? One possibility is that Spanish does not have X.²⁵

²³ If the VP internal subject hypothesis is adopted, equating X with AgrDO may require adopting a Koizumi (1995)-style split VP structure, with AgrDO sandwiched between VP shells.

²⁴ It is worth noting here that Lasnik (1999) argues that AgrDO is only optionally present in the structure in English, an interesting claim in light of the above suggestion that X may actually be AgrDO.

²⁵ This possibility may become less plausible if X is AgrDO. (Notice, however, that it actually suffices that X simply does not enter the structure overtly or cyclically in Spanish. In this respect, see Bošković 2000 and Bošković and Lasnik 1999 for the possibility of LF and acyclic lexical insertion respectively.)

The second way of accounting for the optionality of the accusative-dative order in the postverbal position in Greek provides us with a more principled account of the impossibility of such order in Spanish, i.e. the different behavior of the two languages in the relevant respect.

Suppose that the cluster in (24) can undergo an additional head movement, which would give us (28).

(28) [FP F [Dat+[Acc+V]] [Dat+Acc+V] [XP [Acc+V] Dat...]]

As usual, the clitics have to be pronounced in a lower position in order not to block affix hopping. Given that they must be pronounced in the next highest position, as discussed above (cf. Bulgarian (21)), the derivation in question gives us the dative-accusative order as the only possibility.

(29) [FP F [~~Dat+[Acc+V]]~~ [Dat+[Acc+V]] [XP[~~Acc+V~~] ~~Dat...~~]]

The fact that both the dative-accusative and the accusative-dative order are available in Greek imperatives can then be easily accounted for if the ECC (i.e. the dative-accusative-V complex) optionally undergoes the additional head movement upon its formation. Depending on whether or not the additional head movement takes place, we get either the dative-accusative or the accusative-dative word order. What about Spanish? If the ECC in Spanish must undergo the additional head movement, or move even higher than the ECC in Greek, the dative-accusative will be the only derivable clitic order, even in the postverbal position. In other words, if the ECC, or, more precisely, the verb, which carries the clitics along, in Spanish must move either higher than the verb in Greek, or at least as high as the verb in Greek can move, the dative-accusative order will be the only possible clitic order in Spanish under the current analysis.²⁶ It is well-known that Spanish verbs indeed *must* move very high in the structure. Thus, indicative verbs must move as high as the highest head in the split I.²⁷ There is also independent evidence that Greek

²⁶ Under this analysis, the same would have to hold for Bulgarian, given the impossibility of the clitic switch in (9c) (cf. **Dade go mi.*)

²⁷ Even infinitival verbs move quite high in Spanish. Pollock (1989) and Belletti (1990) show that in both Italian and French, the infinitive can undergo overt movement. However, Italian infinitives move higher than French infinitives (according to Belletti, they obligatorily move to the highest head in split I, just like finite verbs), evidence for which is provided by the fact that only Italian infinitives move higher than negative adverbs, illustrated by Belletti with examples from Italian (It) and by Pollock with examples from French.

(i) a. *Gianni ha deciso di non tornare più/mai/ancora.* It
Gianni has decided to Neg come-back anymore/ever/again

verbs do not move as high as Spanish verbs. As shown by (30), Spanish verbs cross both sentential adverbs, which are located high in the structure, and manner adverbs, which are located lower in the structure.

- (30) *Juan resolvió correctamente el problema.* Sp
 Juan solved correctly the problem
 1. ‘Juan gave a correct solution for the problem.’
 2. ‘Juan did the right thing in solving the problem.’

Significantly, as illustrated by the unacceptability of (31a) on the sentential adverb reading, Greek verbs can cross manner adverbs but not sentential adverbs. This means that they can undergo only short verb movement, which is consistent with the analysis presented above. (What is important for our purposes is that Spanish verbs move higher than Greek verbs.)²⁸

- (31) a. *O Petros elise sosta tin askisi.* Gr
 Peter solved correctly the problem

b. **Gianni ha deciso di non più/mai/ancora tornare.*

- (ii) a. *Pierre dit ne pas manger.* Fr
 Pierre says Neg Neg eat
 ‘Pierre says he is not eating.’
 b. **Pierre dit ne manger pas.*

Spanish patterns with Italian in the relevant respect, which means that even its infinitival verbs move to the highest head in I.

- (iii) a. *Juan ha decidido no volver más/nunca/de nuevo.* Sp
 John has decided Neg come-back anymore/ever/again
 b. **Juan ha decidido no más/nunca/de nuevo volver.*

²⁸ Assuming that sentential adverbs are TP-adjoined, as argued in Watanabe (1993) and Bošković (1997) (they can also be located in a pre-subject position, as in Greek *Sosta o Petros elise tin askisi* ‘Correctly, Peter solved the problem’, which could be the AgrsP-adjoined or even a higher position), the data in (30)-(31) as well as the data concerning clitic switch discussed above can be accounted for if Spanish verbs move to Agrs, whereas Greek verbs cannot move higher than T (AgrsP being higher than TP). More precisely, the highest landing site of Greek verbs would be either T or even a head position right below T, for example AgrIO.

It is worth noting here that one of my informants finds the sentential adverb reading difficult to get even in (31b). However, even for this informant, this reading is worse in (31a). For relevant discussion of sentential adverbs, see also Alexiadou (1997:157). Notice that I avoid using periphrastic tenses since the auxiliary in periphrastic tenses is known to be able to undergo movement even in languages which otherwise do not have V-movement, such as English. (Auxiliaries also move higher than main verbs in Serbo-Croatian, see Bošković 2001a and Stjepanović 1998.)

1. 'Peter gave a correct solution for the problem.'
 2. '*Peter did the right thing in solving the problem.'
- b. cf. *O Petros sosta elise tin askisi.*
1. 'Peter gave a correct solution for the problem.'
 2. 'Peter did the right thing in solving the problem.'

The current analysis thus ties the different behavior of Greek and Spanish with respect to the availability of the clitic switch to an independently motivated difference with respect to verb movement between the languages in question.

4. Conclusion

To summarize, the affix hopping+copy and delete analysis provides us with a principled account of the clitic switch in Greek imperatives,²⁹ i.e. the fact that the accusative-dative clitic order is available in the postverbal clitic position in imperatives, in contrast to the preverbal clitic position in indicatives, where only the dative-accusative clitic order is possible. The analysis also accounts for the optionality of the clitic switch in Greek (the dative-accusative order is also possible in imperatives) and its complete unavailability in languages like Spanish, whose clitics and imperatives are in other respects quite similar to the Greek ones; in particular, both languages have a ban on negative imperatives, which is under the affix hopping+copy and delete analysis related to the fact that in imperatives, clitics are located postverbally in both languages. The central claim of the paper concerning the clitic switch is that it is a PF phenomenon. More precisely, it arises as a result of a lower pronunciation of clitics forced by PF considerations. There is nothing special about it in the syntax. As a result, nothing special has to be said about the syntax of clitic placement in imperatives under the current analysis. Furthermore, although the clitic switch is argued to be a PF phenomenon it is achieved without actual PF movement, in line with Bošković's (2001a) approach to PF word reordering, on which PF considerations are allowed to affect word order, but without actual PF movement.

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²⁹ As noted above, the analysis is readily extendable to the clitic switch in gerunds.

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