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On Clitics, Feature Movement and Double Object Alternations¹

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In this paper I establish the following Generalization for Greek:

- (1) When a lower nominative argument moves to T over a higher argument the higher argument must move to T as well as a clitic.

Specifically, I investigate the distribution of dative goals and experiencers in Greek and, I show that while in transitive constructions dative arguments can be DPs with morphological genitive Case, PPs or clitic doubled/cliticized genitives, in NP movement constructions certain forms are systematically missing. Genitive DPs are illicit in all NP movement contexts (passives, unaccusatives and raising) and PPs are ruled out in raising constructions. On the other hand, clitics and clitic doubled DPs are always licit.

On the basis of this distribution, I argue that clitic doubling/cliticization is a way to circumvent *Attract Closest* effects with NP-movement. Nominatives may not cross over higher dative DPs and PPs when the latter are located in a different minimal domain than nominatives (Chomsky 1995:356, see also McGinnis 1998 for a related though different account). Under cliticization and clitic doubling, the formal features of a dative DP move to T before a lower nominative DP moves and, therefore, the dative does not count as an intervener for the movement of the nominative. Under the proposed analysis, clitic doubling constitutes feature raising without phrasal pied piping (Chomsky 1995).

¹ I would like to thank Artemis Alexiadou, David Embick, Martin Everaert, Danny Fox, Martin Hackl, Sabine Iatridou, Tony Kroch, Winfried Lechner, Alec Marantz, Martha McGinnis, Norvin Richards, Henk van Riemsdijk, Philippe Schlenker, and especially David Pesetsky for discussion, comments and suggestions.

1. The forms of dative constructions in Greek

1.1. The Dative Alternation

Greek has a dative alternation. The indirect object can be realized as a PP or a DP with morphological genitive case:

- (2) a. Edosa to vivlio s-ton Janni *PP-dative*
 Gave-I the book (Acc)P-Det (to-the) John (Acc)
 'I gave the book to John'
- b. Edosa tu Janni to vivlio *Genitive DP*
 Gave-I the John(Gen) the book(Acc)
 'I gave John the book'

Greek has lost the distinction between morphological dative and genitive case and has generalized the use of genitive.

The Genitive construction illustrated in (2b) is a double object construction. There is extensive evidence for this discussed in Markantonatou (1994) and Anagnostopoulou (1998). For example, there is an animacy restriction on genitive goals which generally characterizes double object constructions crosslinguistically, as is well known:

- (3) *Estila tis Gallias to gramma
 Sent-I the France(Gen) the letter(Acc)
 '*I sent France the letter'

Moreover, there are constraints on the semantic types of predicates that license the Genitive construction in Greek, like English (Pinker 1989, Pesetsky 1995). For example, (4) shows that the Genitive construction is disallowed with verbs expressing communication of propositions, like the double object construction in English:

- (4) *Ipostiriksa tu dikasti tin athootita mu
 Claimed/asserted-I the judge(Gen) the innocence-my(Acc)
 '*I asserted the judge my innocence'

Finally, in the Genitive construction the goal asymmetrically c-commands the theme. The examples below illustrate this with respect to quantifier-variable binding (Barss & Lasnik 1986):

- (5) ?Estila tu kathe ipallilu; tin epitagi tu;
 Sent-I the every employee(Gen) the paycheck his(Acc)
 'I sent every employee his paycheck'
- (6) *Estila tu katoxu tu; to kathe check;
 Sent-I the owner its(Gen) every check(Acc)

1.2. Indirect Object Clitic Doubling

When the indirect object is a Genitive DP, it can be doubled by a pronominal clitic:

- (7) Tu-edosa tu Janni to vivlio
 Cl(Gen)-gave-I the John(Gen) the book(Acc)
 'I gave John the book'

When it is a PP, doubling is not possible. (cf. Markantonatou 1994, Dimitriadis 1999):

- (8) *Tu-edosa to vivlio s-ton Janni
 Cl(Gen) gave-I the book (Acc) P-Det (to-the) John (Acc)
 'I gave the book to John'

Doubling is possible with indirect object Genitive QPs. The genitive asymmetrically c-commands the accusative:

- (9) ?Tu estila tu kathe ipallilu; tin epitagi tu;
 Cl(Gen) sent-I the every employee(Gen) the paycheck his(Acc)
 'I sent every employee his paycheck'
 (10) *Tu estila tu katoxu tu; to kathe check;
 Cl(Gen) sent-I the owner its(Gen) every check(Acc)

After having introduced the various types of datives in Greek, I will now look at their distribution in transitive and intransitive contexts.

2. The distribution of datives

The distribution of dative phrases in Greek is summarized in table 1:

Table 1

	Genitive DPs	PPs	Doubled DPs/Clitics
Transitives	ok	ok	ok
Passives/Unaccusatives	*	ok	ok
Raising	*	*	ok

Starting with transitives, we saw already that when the general preconditions for the double-object construction are met, i.e. the goal is animate and the predicate is of an appropriate semantic type, goals can either be PPs or genitive DPs. In these contexts, clitic doubling or cliticization of the goal argument may optionally take place.

On the other hand, in NP-movement constructions there are systematic restrictions. Genitive DPs may not break up an A movement Chain when there is NP movement of themes or raising of subjects to a higher [Spec, TP]. In (11) it is shown that genitive DPs are not allowed in passives:

- (11) *?To vivlio dothike tu Janni apo tin Maria
 The book (Nom) was given the John(Gen) by the Mary
 'The book was given to John by Mary'

The same holds for goals and experiencers in non-alternating unaccusatives, alternating unaccusatives and experiencer object predicates that belong to Belletti & Rizzi's (1988) 'piacere' class, a class which is uncontroversially unaccusative (Pesetsky 1995):

- (12) a. *?To gramma irthe tis Marias me megali kathisterisi *non-alternating*:
 The letter (Nom) came the Mary(Gen) with a big delay
 'The letter came to Mary with a big delay'

- b. *O ipopsifios parusiastike tis Marias *alternating:*
The candidate (Nom) appeared the Mary(Gen)
'The candidate appeared Mary'
- c. *Ta vivlia aresoun tu Petru *experiencer-object*
The books (Nom) please-3pl to-the Peter
'Peter likes books'

Finally, with the raising verb *fenete* 'seem' genitive DP experiencers are not licensed. This is shown in (13a) with a small clause complement and (13b) with a subjunctive complement.²

- (13) a. *O Jannis fenete tis Marias eksipnos
The Jannis seems the Mary(Gen) intelligent
'John seems to Mary to be intelligent'
- b. *Ta pedhia dhen fenonte tis Marias na dhiavazoun
The children not seem-3pl the Mary(Gen) SUBJ read-3pl
'The children do not seem to Mary to study'

PPs are allowed when there is NP movement of 'deep objects' to Spec,TP, i.e. in passives and unaccusatives, but not when there is raising of lower subjects to a higher [Spec, TP].³

- (14) a. To vivlio dothike s-tin Maria *passive*
The book was given to-the Mary
- b. To gramma eftase s-tin Maria *unaccusative*
The letter got to-the Mary
- c. To vivlio aresi s-tin Maria *experiencer-object*
The book appeals to-the Mary
- d. ?* O Jannis fenete s-tin Maria eksipnos *raising*
The John seems to-the Mary intelligent
- e. *Ta pedhia dhen fenonte s-tin Maria na dhiavazoun
The children not seem-3pl to the Mary SUBJ read-3pl
'The children do not seem to Mary to study'

On the other hand, there are no restrictions on clitic doubled or cliticized genitives. They are allowed in all NP movement contexts, passives, unaccusatives and raising constructions alike:

- (15) a. To vivlio *tis* dothike (tis Marias) *passive*
The book Cl(Gen) was given the Mary(Gen)
- b. To gramma *tis* eftase (tis Marias) *unaccusative*
The letter Cl(Gen) got the Mary(Gen)
- c. To vivlio *tis* aresi (tis Marias) *experiencer-object*
The book Cl(Gen) appeals the Mary (Gen)
- d. O Jannis *tis* fenete (tis Marias) eksipnos *raising*
The John Cl(Gen) seems the Mary(Gen) intelligent

² In Anagnostopoulou (1998) it is argued in detail that Greek has raising across subjunctive *na*-complements. Greek also has control subjunctives (Iatridou 1988/1993, Terzi 1992 among others). It would lead us too far afield to address the issue here.

³ Similar facts are found in French and Italian. See McGinnis (1998) for a detailed analysis in terms of featural locality.

- e. Ta pedhia dhen *tis* fenonte (*tis* Marias) na dhiavazoun
The children Cl(Gen) not seem-3pl the Mary(Gen) SUBJ read-3pl

In the next sections, I will argue that the complex interaction between cliticization/clitic doubling and A-movement shown in the patterns above can be derived from a theory according to which locality is sensitive to intervening features (Chomsky 1995, 1998). I will also argue that clitic doubling is a case in which Move raises just formal features leaving the rest of the category unaffected (as in Chomsky 1995, contra Chomsky 1998).

3. Analysis

3.1. Assumptions

Following Chomsky (1995, 1998), I assume that a set of universal features are manipulated by the computational system by Feature-Attraction and Move to generate expressions. Attraction affects the closest to the target appropriate phrase. "Appropriateness" depends on whether or not a feature F of the moved constituent may enter into a matching relation with a feature of the target. Mismatch of features cancels the derivation. "Closeness" is defined in terms of c-command and equidistance. The definitions I assume are given in (16). They are taken from Chomsky (1995):

- (16) a. α can raise to target K only if there is no legitimate operation Move β targeting K , where β is closer to K .
b. K attracts F if F is the closest feature that can enter into a checking relation with a sublabel of K .
c. If β c-commands α , and τ is the target of movement, then β is closer to τ than α unless β is in the same minimal domain as (i) τ or (ii) α

Following Alexiadou & Anagnostopoulou (1998a,b) and Anagnostopoulou (1998), I further assume that there are two features associated with I (cf. Chomsky 1995, Collins 1997): an EPP feature and a Case feature. Both are formal features of the same type, i.e. [-interpretable] nominal features on functional heads, and both are responsible for the movement operations performed in the computational system. Unlike Chomsky (1995, 1998), I assume that EPP is not necessarily satisfied by Move / Merge XP. Move X^0 and Move F can also check EPP.

3.2. Differences in the distribution of DPs and PPs follow from Equidistance

Recall that there is an asymmetry in the distribution of genitive DPs and PPs. The former are ruled out in monoclausal and biclausal NP-movement constructions alike. The latter are ruled out only in biclausal NP-movement constructions. I argue that this asymmetry can be naturally accommodated in the system outlined above. Specifically, (i) dative phrases have an EPP feature that can be attracted by T irrespective of their categorial status, whether they are PPs or DPs. As a result, both DPs and PPs may block movement of lower nominatives. (ii) The intervening feature blocks attraction of the nominative argument when the nominative and the dative are in different minimal domains. Genitive DPs are always in a different minimal domain than nominatives because they are introduced by a light applicative verb (Marantz 1993). PPs are in a different minimal domain than nominatives only in raising constructions because they are arguments of the main verb while the subject raises out of the embedded clause. In monoclausal constructions (passives, unaccusatives) PPs and nominative themes are both

in the minimal domain of the lexical verb.

Collins (1997) and Alexiadou & Anagnostopoulou (1998b) argue that locative and dative PPs are visible for EPP-Attract. Evidence for this comes from the fact that they may undergo EPP-driven movement in constructions like *locative inversion* (Bresnan & Kanerva 1989 among many others) and *dative inversion* (den Dikken 1995). In the present system, this means that dative PPs have a D (EPP) feature that can be attracted by T. When the PP moves, it checks the EPP feature of T. Case and the ϕ -features of T are checked by the other argument.

Dative DPs also provide evidence that they can be attracted to T. In many languages, dative arguments must become subjects in passive ditransitives.⁴ Depending on whether a language has a distinction between a dative (lexically specified) and an accusative morphological case, dative arguments become subjects retaining their lexically specified dative when the language has a three-way case/agreement system, while they exchange their accusative (or object agreement) with nominative morphology (or subject agreement) when the language has a two-way case/agreement system. In the former class of languages, the other argument surfaces with nominative case. In the latter class of languages, the other argument surfaces with a case which by some has been characterized as inherent/oblique accusative (Larson 1988, Pesetsky 1995), by others as no Case (Baker 1988, 1996) and by others as structural accusative (McGinnis 1998). In the present framework, this means that dative DPs with morphologically specified case have a D feature that can be attracted to T, while the nominative argument checks Case and the ϕ -features of T. On the other hand, indirect object DPs which become nominative under passivization check all formal features of T.

Greek is a language with a three-way distinction and for this reason, I will assume that genitive DPs have a D feature that can be attracted by T, like PPs and like quirky datives in Icelandic. Genitive DPs are not attracted for Case/ ϕ -features since they never surface with nominative and they never agree with the verb:

- (17) *I Maria dothike to vivlio
 The Mary(Nom) was given the book(Acc)
 'Mary was given the book'

Romero & Ormazabal (1998) have made the important observation that languages with a two-way case system have unaccusatives that do not license the double object construction, while languages with a three-way case system have unaccusatives that license the double object construction. In the former group of languages, unaccusatives differ from passives in permitting neither NP-movement of the goal nor NP-movement of the theme; that is, unaccusatives in languages with a two-way case system are

⁴ As is well known, the situation is very complicated with double object constructions crosslinguistically. Languages differ with respect to whether they only allow goal passivization (asymmetric double object languages) or both goal and theme passivization (symmetric double object languages). A further division is between languages that do not have a morphological distinction between dative and accusative case and languages that do have such a distinction. Among languages that have a morphological distinction between dative and accusative case, there are languages like Icelandic in which the dative argument becomes the subject in passives retaining its morphological case (quirky subject) and languages like Albanian in which the theme argument becomes subject. It is not possible to discuss all these cases here due to space limitations. The reader is referred to Baker (1988), Marantz (1993), McGinnis (1998) and Anagnostopoulou (1998) among many others for detailed discussion.

obligatorily related to the PP-dative construction (Baker 1993). In the latter group of languages, unaccusatives behave syntactically like passives. Greek is a language with a three-way system, and unaccusatives behave exactly like passives. In what follows, I will concentrate on Greek and I will discuss passives and unaccusatives on a par. With these in mind, I now turn to the distribution of Genitive DPs and PPs in monoclausal and biclausal NP-movement constructions.

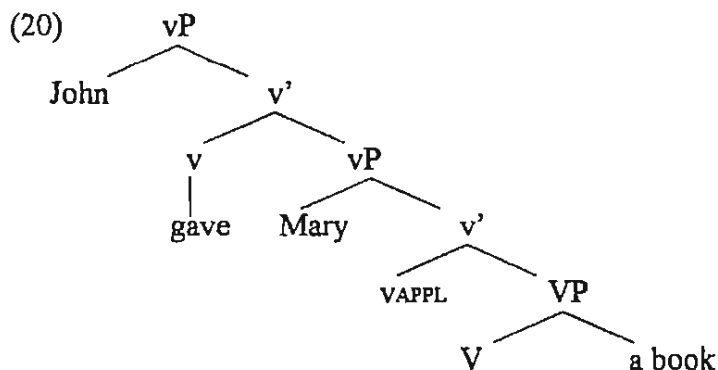
Recall that the alternation between the PP-construction and the Genitive construction in Greek corresponds to the dative alternation in English. Greek *se*-datives are the counterparts of English *to*-datives, and Greek genitive goals are the counterparts of double object goals in English. Even though there is controversy in the literature as to whether the two constructions are transformationally related or not, and what the correct representation is for the double object construction (see the various proposals discussed in Bars & Lasnik 1986, Larson 1988, Baker 1988, 1996, Marantz 1993, Pesetsky 1995, den Dikken 1995), there is a growing consensus that the double object construction involves a zero affix introducing the goal argument,⁵ which explains, among other things, why nominalizations (18) and adjectival passives (19) related to the double object construction are ungrammatical (*Myers' Generalization effect*,⁶ see Pesetsky 1995 and Marantz 1993):

- (18) a. *Sue's gift of Mary of a book
 b. Sue's gift of a book to Mary
 (19) a. hand-made cookies
 b. *flower-given boss

The fact that double object constructions and applicative constructions found in e.g. Bantu languages have identical syntactic properties, and that in applicative constructions this affix is overt (the applicative affix), further supports this analysis. Marantz (1993) argues that this applicative affix is a light *v* introducing the goal argument, which is merged on top of the lexical *V* introducing the theme, resulting in a "stacked VP" structure in which the theme is introduced by *V*, the goal by an applicative *v* and the agent by a causative *v* (Chomsky 1995 building on Hale & Keyser 1993, Kratzer 1994):

⁵ Pesetsky (1995) argues that the zero affix introduces the theme argument but his arguments crucially rely on the assumption that the Case of the theme-argument is exceptional. This might be correct for asymmetric double object languages which lack a morphological distinction between a dative and an accusative (English) but cannot be extended to symmetric double object languages and, especially, dative-accusative languages.

⁶ According to Myers's Generalization, zero-derived verbs do not permit affixation of further derivational morphemes (Pesetsky 1995:128). On the assumption that double object constructions are formed on the basis of a zero affix, it follows that derivational processes like nominalizations and adjectival passive formation cannot take as basis a double object construction because e.g. the nominalizing affix will attach to the verb plus the zero applicative affix.



In such a structure, it is clear why the theme cannot move across the goal to T in passives and unaccusatives given the definition of *equidistance* in (16c). The goal is neither in the same minimal domain as the target (Spec,TP) nor in the same minimal domain as the theme since the goal is the specifier or vAPPL and the theme is the complement (or specifier, Marantz 1993) of V. Thus, this structure⁷ together with the assumption that Genitive DPs have a D feature that can be attracted by T, accounts for the fact that they are ruled out in Greek passives and unaccusatives (Table 1) in terms of *Attract Closest*. In (11) and (12) the nominative cannot raise to T across an intervening dative which is closer to T than the nominative and has a D feature that can be attracted by T. The same analysis can be extended to the raising examples in (13), though we will see that it is not even necessary to appeal to vAPPL, in order to account for the ungrammaticality of (13).

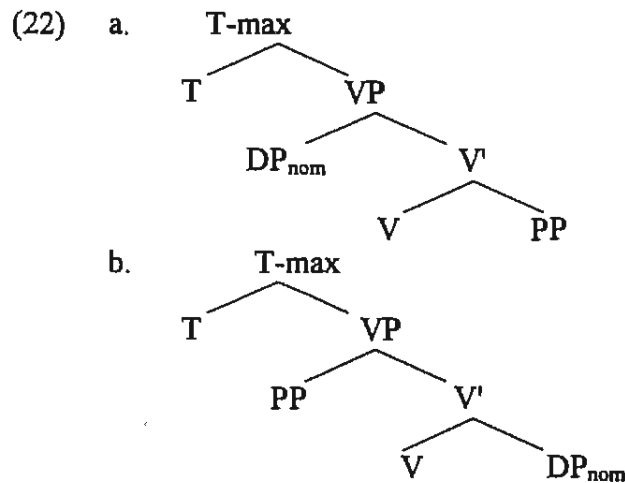
Coming to PPs, the wellformedness of passives and unaccusatives related to the PP construction in (14a)-(14c) is due to the fact that PPs and nominatives are *equidistant* from T since they are in the same minimal domain. Crosslinguistic evidence for the fact that PP-goals and themes are equidistant from T comes from the fact that PP datives in English permit *optional movement* of either the theme or the goal argument in passives, a fact which can be explained in terms of *Local Economy* (Collins 1997):⁸

- (21) a. A book was given to Mary
 b. To Mary was given a book

Moreover, there is no evidence from nominalizations and adjectival passives that there is an extra head in PP dative constructions. In this account, the grammaticality of PP datives is expected regardless of whether the correct structure is one in which the theme commands the goal (22a), as proposed by Larson (1988), or one in which the goal commands the theme underlyingly (22b), as argued for in Pesetsky (1995) on the basis of backward anaphora:

⁷ In passives and unaccusatives the structure is identical, except that the causative v is not projected, and either there is no v at all or there is an intransitive v. Collins (1997) argues on the basis of the position of the verb in English unaccusatives that there is an intransitive v to which the lexical verb raises, and Marantz (1997) argues on independent grounds for the same. I believe they are right. However, in the structures to follow I abstract away from intransitive v for reasons of space.

⁸ Note that the grammaticality of the examples in (21) is an argument that double object constructions involve an applicative head introducing the goal. The fact that in the double object construction the goal blocks NP-movement of the theme cannot be accounted for simply in terms of c-command, or else we would incorrectly predict either (21a) or (21b) to be ungrammatical.



And in fact, both structures are compatible with the facts in Greek.⁹ As shown in (23), an indirect object quantifier can precede the direct object and bind a pronoun in it, and, conversely, a direct object quantifier can precede the indirect object and bind a pronoun in it. Similar results are obtained by the *Each...the Other* test (Barss & Lasnik 1986), but the relevant facts are omitted here due to space limitations:

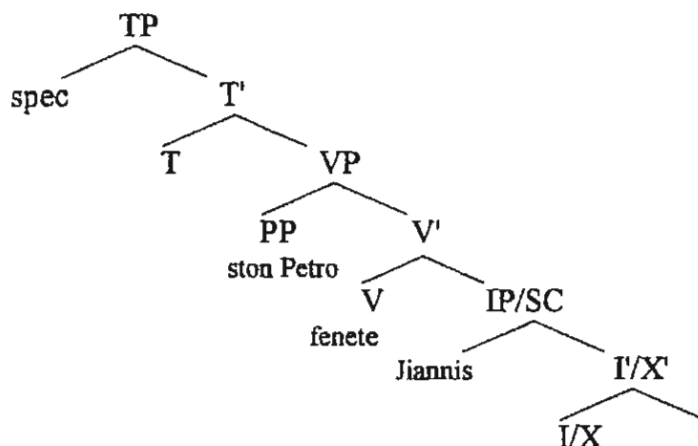
- (23) a. Estila se kathe ipallilo_i tin epitagi tu_i PP>DP
 Sent-1sg to every employee(PP) the paycheck his(Acc)
 'I sent to every employee his paycheck'
- b. ??Estila ston katoxo tu_i kathe check_i
 Sent-1sg to the owner its(PP) every check(Acc)
 'I sent to its owner every check'
- c. Estila kathe check_i ston katoxo tu_i DP>PP
 Sent-1sg every check(Acc) to-the owner his
 'I sent every check to his owner'
- d. ??Estila tin epitagi tu_i se kathe ipallilo_i
 Sent-1sg the paycheck his(Acc) to every employee
 'I sent his paycheck to every employee'

In raising constructions, the PP is an optional argument of the matrix verb *fenete* 'seem', while the subject raises out of the embedded clausal complement (small clause or subjunctive):¹⁰

⁹ There are some reasons to believe that (22b) is the correct underlying structure, as discussed in detail in Anagnostopoulou (1998). For present purposes, however, both structures would do.

¹⁰ In (24) the head and the category of the small clause is left vague. In an Agr-based system it could be an AgrP (Chomsky 1995:353). In a system that does away with Agr projections, it could either be an AP (Stowell 1983, Chomsky 1995:353-4), or even a VP with a V mediating the relation between the subject and the predicate (Hale & Keyser 1997). It doesn't matter which one as long as the SC is headed.

(24)



Since in (24) the nominative argument and the c-commanding PP are in different minimal domains, the raising examples in (14d) and (14e) are correctly predicted to be ungrammatical. Note that the asymmetry between monoclausal and biclausal constructions in the case of PPs is a strong argument for locality in terms of minimal domains and equidistance rather than c-command, especially if the underlying structure of PP-datives is (22b). With these in mind, I will now turn to an analysis of clitic constructions.

3.3. *Dative clitics move to T before lower nominatives*

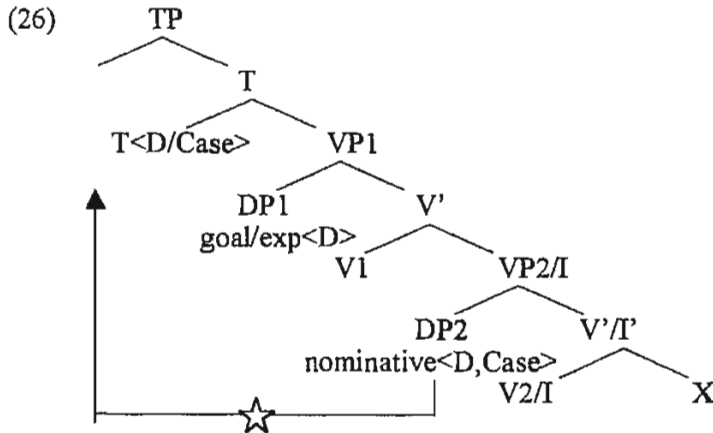
In the previous section, I argued that the distribution of dative arguments in NP-movement constructions is determined by *Attract Closest*. In passives and unaccusatives, DPs are ruled out because they are introduced by a light applicative head, thus blocking NP movement of the lower theme argument to T. PPs, on the other hand, are licit because they are merged in the same minimal domain as themes. In raising constructions, both types of datives are ungrammatical since they occur in the main clause while the nominative raises out of the embedded clause. As shown in (15), clitics and clitic doubled DPs are grammatical in all NP movement contexts. Given that undoubled genitives are ungrammatical, the result is that while cliticization and doubling of genitives are optional in transitive contexts, they are obligatory in passives, unaccusatives and raising constructions.

The well-formedness of the examples in (15), with clitic doubling and cliticization, suggests that cliticized and clitic doubled DPs in Greek are *always* ignored for the purposes of Move/Attract. Even in raising constructions, where dative arguments are clearly higher than the arguments undergoing NP-movement and where PPs are impossible, cliticized/clitic doubled DPs are well formed. This is surprising since cliticized/clitic doubled datives are clearly DPs having a D-feature, which are at least as high as their non-doubled counterparts, or even higher. And yet, we must conclude that Attract Closest is not violated. This leads to a re-interpretation of the Generalization in (1) as in (25):

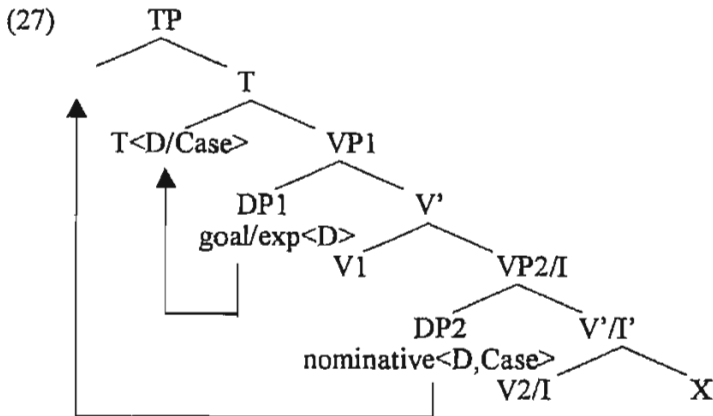
- (25) When a lower nominative argument moves to T over a higher argument and the higher argument moves to T as well as a clitic, there is no violation of locality.

To account for (25), I propose that in clitic constructions, the clitic moves to T before the lower nominative. Consider (26) where the nominative argument cannot move

to T across the genitive DP because the genitive has a D feature which can be attracted to T and is closer to T than the nominative:



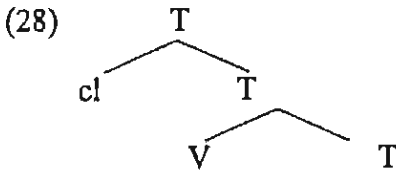
If the genitive moves to T before the nominative, as is illustrated in (27), then *Attract Closest* is respected:



I argue that the well formed examples with clitic doubling and cliticization involve the derivation in (27).

Starting from simple clitics, according to several analyses of cliticization (Kayne 1991 and much subsequent literature), pronominal clitics are attached to a functional head position in which the verb is found, as a result of V-to-I movement. Assuming this head to be T, clitics attach to the complex v-T head, resulting in (28):¹¹

¹¹ In (28) I abstract away from clitic clusters. Following Richards (1997), I assume that when two clitics move they target the same head T, resulting in crossing paths, which are analysed in terms of "tucking in". The higher clitic moves first to T because it is closer to it (*Attract Closest*), and the lower clitic moves second "tucking in" to a position beneath the first one as a result of *Shortest Move*. This analysis gives the correct result that in Greek (as in many other languages) the order of clitics is strictly genitive>accusative. Note that, as pointed out by Bonet (1991), Greek is one of the languages in which the order of clitics does not appear to be determined by morphological factors such as sensitivity to person features. Thus, Greek can be plausibly claimed to be a language in which the order of clitics reflects their syntax and is not altered by requirements imposed by the morphological component. Note that the surface structure resulting from (27) does not reflect the order in which the arguments have moved. This is so because the nominative moves as an XP while the dative moves as a head or as a set of features. It appears that the base order among arguments is preserved when all arguments undergo the same type of movement: they uniformly undergo



Nominative arguments also move to T to check phi-features and Case. This means that in a construction containing a nominative DP and a pronominal clitic both arguments target a single head T. Since both arguments move to the same head, the order of their movements is determined by *Attract Closest*. T prefers to attract the argument which is closer to it first. Movement of the lower argument will follow anyway, but on the assumption that the grammar cannot look ahead in the derivation, this is irrelevant to the choice of which of the two arguments will move first.

In a construction without an external argument the pronominal dative clitic is merged higher than the nominative and it moves first followed by the nominative argument. T attracts the clitic first because it is closer to it. Once it is in T, the clitic no longer interferes with the movement of the nominative. Such a derivation is crucially different from a derivation without cliticization. At the point where the nominative moves, the dative argument no longer is in its base position. It is in T and therefore, it does not block movement of the nominative to T. This accounts for the difference between NP movement constructions in which the dative surfaces as a clitic, which are well formed, and NP movement constructions in which the dative surfaces as a Genitive DP, which are ungrammatical.

I further extend this analysis to clitic doubling constructions. I argue that the clitic is a spell-out of formal features of the full argument it doubles. Thus, even though the genitive phrase is in a position between the nominative and T, its D feature has moved "out of the way" of the nominative argument.¹² Clitic doubling is, on this view, a "sign" of D-feature movement without phrasal pied piping.

Evidence for this analysis comes from the fact that, as noted and discussed in detail in Alexiadou & Anagnostopoulou (1999), the presence of doubling clitics affects binding relationships among DPs. Specifically, clitic doubling systematically obviates Weak Crossover effects. Though Greek has WCO effects, they are systematically absent when the lower phrase undergoes clitic doubling. The basic contrast is illustrated below:

- (29) a. Kathe mitera sinodepse to pedhi tis sto sxolio
Every mother accompanied the child hers at school
'Every mother accompanied her child to school'
- b. ?*I mitera tu sinodepse to kathe pedhi sto sxolio
The mother his accompanied the every child at school
'?*His mother accompanied every child to school'
- (30) a. Kathe mitera *to* sinodepse *to* pedhi tis sto sxolio
Every mother cl-acc accompanied the child hers at school
'Every mother accompanies her child at school'
- b. I mitera tu *to* sinodepse *to* kathe pedhi sto sxolio
the mother his cl-acc accompanied the every child at school
'His mother accompanied each child at school'

XP or clitic movement.

¹² Pesetsky (1998) interprets these facts in terms of Richards' (1997) *Principle of Minimal Compliance*.

(30a) shows that the subject binds into the clitic doubled object and (30b) shows that the clitic doubled object also binds into the subject. Crucially, in the absence of a doubling clitic in (29) the usual subject-object asymmetry arises. The subject can bind into the object while the reverse is not possible. Alexiadou & Anagnostopoulou (1999) argue that the mutual binding effects in (30) are due to the fact that there is movement of the object across the subject, which is signified by the clitic, and optional reconstruction of the preverbal subject to its VP-internal position, which is lower than the moved object. On this account, the backward variable binding effects found in Greek clitic doubling constructions are assimilated to comparable effects found in English raising constructions as opposed to control constructions discussed in Fox (1998):¹³

- (31) a. *His* father seems to *every boy* [t to be a genius]
 b. *Every woman* seems to *her* son [t to be a genius]
 (32) a. ??*His* father wrote to *every boy* [PRO to be a genius]
 b. *Every father* wrote to *his* boy [PRO to be a genius]

Chomsky (1995:272-275) suggests that if feature movement exists, we expect it to show binding effects because binding involves a relation between formal features (D and phi-features) of DPs. He argues that this is correct on the basis of binding evidence found in ECM constructions and control evidence found in *there*-type expletive constructions. However, Lasnik (1996) points out that in expletive-associate chains feature movement does not affect binding, on the basis of the contrasts in (33) and (34) with anaphora and WCO effects respectively:

- (34) a. **there* seem to each other [t to have been many linguists given good job offers]
 b. Many linguists seem to each other to have been given good job offers
 (35) a. **There* seems to *his* lawyer to have been *some defendant* at the scene
 b. *Some defendant* seems to *his* lawyer to have been at the scene

Lasnik (1996) concludes that expletive constructions provide no evidence that feature movement affects binding, a conclusion which, I believe, is valid. Clitic doubling in Greek, however, has a clear and systematic binding effect. Thus Greek provides evidence that feature movement creates new binding configurations.

I propose that the difference between expletive constructions and clitic doubling constructions is that the former involve just phi/N-feature movement while the latter involve D feature movement. That expletive constructions do not involve D feature movement is uncontroversial. This is the standard way of analysing Definiteness Restriction effects: it is assumed that the expletive has a D feature satisfying the EPP and needs to combine with an N feature, this being the reason why the associate cannot be definite or headed by a strong determiner. That clitic doubling constructions involve raising of a D feature is exactly what we need to assume in order to account for the lack of intervention effects in NP-movement constructions. I conclude that binding is affected only when there is D feature movement, not otherwise. This means that the D feature is the formal feature relevant for binding relations.¹⁴

¹³ Fox argues that the control sentences are deviant because of WCO under the assumption that QR involves A'-movement. The raising sentences, on the other hand, are acceptable. This is explained if we assume that QR is not necessary to get scope for the universal quantifier (because then we would expect a WCO effect to obtain). In turn, this suggests that the well-formed raising examples involve Scope Reconstruction.

¹⁴ Another possibility is to suggest that expletive constructions are instances of *Agree* (Chomsky 1998) and

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do not involve feature movement to a higher position. In expletive constructions, the associate remains in its base position and, therefore, a new binding configuration cannot be created because command remains the same. On the other hand, in clitic doubling the clitic undergoes actual raising, which has a clear PF reflex, and therefore it does c-command an originally higher DP.

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