

Optimal Romanian clitics: A cross-linguistic perspective*

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1. Introduction

Romanian shares with other Balkan languages a very rich clitic inventory. This inventory includes nominal clitics, such as the definite article and possessive adjectives which encliticize to the first word of a noun phrase, and clausal clitics which typically procliticize to the verb. Romanian clausal clitics -- the focus of this paper -- include not only familiar pronominal elements, but also tense/aspect auxiliaries, modal particles, and even intensity adverbs (Mallinson 1986; Rivero 1994; Dobrovie-Sorin 1994). These elements are commonly referred to as *clitics* because they are phonologically dependent on a host and they display word order properties that distinguish them from their non-clitic counterparts, as discussed further below.

One enduring feature of generative grammar is syntactic movement. For example, elements which by virtue of their thematic properties occupy a right periphery position in a clause may instead surface at the left periphery because they have undergone movement to a higher (leftward) position. This is the case for *wh*-phrases in many languages. This has also been claimed for object clitics in Romance following Kayne (1975). While some scholars have since argued against a movement analysis of object clitics, one important assumption behind Kayne's original analysis has gone virtually unchallenged among generative syntacticians. It is the view that clitic elements are generated in the syntax and as such obey syntactic constraints.

The present paper challenges this assumption, arguing instead that clitics instantiate functional features which are realized morphologically as phrasal affixes. On a par with lexical affixes -- an alternative way in which functional features may be instantiated -- phrasal affixes are subject to

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alignment constraints which favors their realization at the edge of some domain.

The empirical starting point of the analysis is the existence of a Romanian puzzle from the point of view of current standard assumptions about clitics, functional categories, and verb movement. This puzzle has four parts.

First, Romanian questions do not undergo subject-auxiliary (henceforth SA) inversion:

- (1) a. Ce a spus Ion?
 what aux3SG said John
 ‘What has John said?’
 b. Cu cine te -ai dus la litoral?
 with whom refl aux2SG go the coast
 ‘With whom did you go to the coast?’

Rather, the subject follows the auxiliary-verb sequence. SA in English (*What has John said?*) is standardly analyzed as I to C movement of the auxiliary *has* across the subject NP in SpecIP. What blocks such an analysis in Romanian (**ce a Ion spus*) is unclear, apart from the fact that a clitic auxiliary is involved. It is all the more puzzling because Romanian has relatively free word order; in particular, subjects may freely occur in pre- or post-verbal position (Motapanyane 1989, 1991).

Secondly, examples like (1a,b) also raise the issue of the number and type of landing sites for verbal elements. If the lexical verb is in C, where is the auxiliary? One could entertain the view that the subject is in specVP and the auxiliary in C. The question then becomes: Where is the past participle? Note that it couldn't be under Tense or Agr, given its non-finite status.

Third, positive imperatives show encliticization while questions and declarative statements show proclitization. Compare (2) with (1) and (3).

- (2) Lasă mă!
 leave me-IMP
 ‘Leave me!’
 (3) (Nu) l- am- văzut.
 neg him aux1SG seen
 ‘I have (not) seen him.’

Why do positive imperatives differ from wh-questions with respect to clitic placement if they also involve V movement to C, as proposed in Rivero (1994),

Rivero and Terzi (1995), and Dobrovie-Sorin (1994, 1995)? If, on the other hand, imperatives do not involve V movement, why do they differ from declarative structures like (3), where clitics precede V?

Fourth and last, negative imperatives, in contrast to positive imperatives, show procliticization.

- (4) Nu *mă lăsa!*
 neg me leave-IMP
 'Don't leave me!'

What, if anything, is common to negative imperatives, questions, and declarative statements (including negative ones)? Romanian negative imperatives do exhibit a change in morphology, from imperative in (2) to infinitive in (4). What does this have to do with the change in clitic position? In other words, are the two properties -- change of clitic position and change in morphology -- related or independent of each other?

I will propose the following answers framed in Optimality Theory (Prince and Smolensky 1993). One, Romanian clitic auxiliaries do not allow SA inversion in questions because these clitics do not have the status of head which is required for SA inversion; rather they are phrasal affixes instantiating functional features which might in some other language be realized as lexical affixes. Using the usual terminology, V itself moves to C with the result that overt subjects appear postverbally. Two, a consequence of removing clausal clitics from the syntax is that the question of landing sites for the auxiliary and the past participle does not even arise. Three, clitic placement differs in questions and positive imperatives for two reasons: (a) questions but not imperatives involve verb movement; (b) the position of clitic pronouns is regulated by the ranking of a set of alignment constraints which favor realizing all features at the left edge of a domain which provisionally can be assumed to be the clause. A competition for this very spot ensues among the various features, which is resolved by ranking the constraints in a language-particular order. Hence, alignment constraints are violable. Four, Romanian negative imperatives exhibit procliticization rather than encliticization because of the constraint ranking. The difference between positive and negative imperatives lies in which constraints are fatal. Briefly, the presence of [neg], which more than any other feature needs to be at the left edge of the clause, changes the character of the competition. Finally, the morphology of Romanian negative imperatives is non-finite rather than finite because, among other things, the top-ranking of the constraint on [neg] forces the feature [finite] of the input to be

unparsed.

The view defended here shares the late- and post-GB claim that word order phenomena are to a large extent grounded in morphology. One important difference lies in the present claim that the influence of morphology is not mediated by syntax but rather is direct. As we shall see, some crucial aspects of word order in individual languages result from the interaction of syntactic constraints with morphological constraints rather than from a syntacticization of inflectional morphology. The second difference is that constraint satisfaction crucially involves optimization. Its present implementation follows the basic tenets of Optimality Theory (OT, Prince and Smolensky 1993). In OT, cross-linguistically, variation is predicted to be the norm since the constraints are re-rankable. In the limited scope of this paper, I will demonstrate how reranking of the constraints proposed in the Romanian analysis yields the different patterns observed in two Balkan languages, Macedonian and Bulgarian, and one Romance language, Italian. Overall, the view of cliticization defended here bears strong affinity with the view that clitics are phrasal affixes inserted post-syntactically in the morphological component of the grammar (Klavans 1985; Anderson 1992, 1993). The Optimality Theory (OT) framework adopted here makes it possible however, to dispense with the standard serial view and instead focus on the interaction between the morphological properties of clitics and the syntactic properties of other elements they interact with.

The rest of the paper is organized as follows. Section 2 is devoted to a comparative analysis of Romanian clitics. Section 2.1 argues for the non-syntactic status of clitic auxiliaries and informally introduces the basic idea of optimization. Section 2.2 summarizes the basic claims of OT. Section 2.3 has two foci. One is clitic clustering, a defining property of clitics which forms the core of the present proposal. The other is finiteness, which interacts with clitic placement in Balkan. Finiteness is argued to behave like a clitic; hence it naturally falls under the same analysis. Language-internal variation is discussed in section 2.4 and cross-linguistic variation in section 2.5. Section 3 focuses on verb movement in Romanian questions and the interaction between structural and morphological constraints. Section 4 focuses on Romanian imperatives; it includes a comparative study of Italian imperatives. Section 5 closes the paper with a detailed summary of the proposal.

2. A comparative study of Romanian clitics

2.1. Clitic vs. non-clitic auxiliaries

In Romanian, possibility is expressed by means of the modal auxiliary *a putea* ‘can, may’ followed by an infinitival lexical verb. In declarative sentences, the subject typically precedes an inflected form of *a putea*.

- (5) a. Ion putuse veni.
John could3SG come
‘John had been able to come.’
b. Poate Ion veni mâine?
can3SG John come tomorrow
‘Can John come tomorrow?’

Romanian questions follow various strategies, including purely intonational means. One strategy of particular interest here involves SA inversion, as shown in (5b). Under standard assumptions, SA inversion is analyzed as movement of the auxiliary to C (the issue of where the auxiliary is generated need not concern us here). In this respect, *a putea* behaves like main verbs which also move to C in questions.

- (6) a. Vine Ion?
come3SG John
‘Is John coming?’
b. De ce atîrnă slănină? (Mallinson 1986,10)
from what hang3SG bacon-det?
‘What is the bacon hanging from?’

There are (at least) two additional distributional arguments in favor of assigning the same syntactic status to main verbs and *a putea*. First, the pronominal feminine singular clitic *o* must precede the lexical verb in simple tenses (i.e. in the absence of a clitic auxiliary), as shown in (7a). *O* must also precede *putea* (7b).

- (7) a. Ion o apreciază. (*Ion apreciază o).
John her appreciate3SG
‘John appreciates her.’
b. O pot vedea. (*pot vedea-o).
her can1SG see
‘(I) can see her.’

The remaining evidence lies in the distribution of the adverb *mai*

'again' (or 'no longer' when used with the negative particle *nu*). According to Mallinson (1986), Dobrovie-Sorin (1994), and Rivero (1994), *mai* 'again' is one of a small class of monosyllabic VP adverbs which have the status of clitic. Evidence for its clitic status comes from the fact that the distribution of *mai* is different from that of regular VP adverbs. The standard position in a simple tense for a VP adverb like *des* 'often' is postverbal, as shown in (8a). *Mai* always precedes the main verb, as shown in (8b). As expected, *mai* must also precede *putea*, as shown in (8c).

- (8) a. Elevii mei văd des filme bune.
students my see3PL often movies good
'My students see often good films.'
- b. Ion îl mai vizitează.
John him still visit3SG
'John is still visiting him.'
- c. Nu mai poate scrie.
neg still can3SG write
'(He) cannot write again.'

As independently noted in Dobrovie-Sorin (1994, 26), the distribution of *mai* is especially problematic for Rivero (1994)'s approach. Based on the fact that *mai* immediately precedes the main verb in simple (and compound) tenses, Rivero proposes to base-generate *mai* on the lexical verb and have the complex clitic+V^o move to T/Agr. This account, however, cannot be extended to (8c) in which *mai* precedes the modal auxiliary rather than the lexical verb.¹

¹ In Rivero (1994) *poate* is generated under AuxP and moves to T/Agr. An account consistent with her assumptions might alternatively base-generate *mai* on Aux^o in (8c), but it would fail to explain why *mai* fails to be base-generated on Aux^o in (9b). Alternatively, one might incorporate PF movement of *mai* to the analysis, perhaps along the lines of Halpern (1995). Under Halpern's Prosodic Inversion analysis, clitics in Balkan languages such as Serbo-Croatian, Bulgarian are generated in leftmost clausal position in the syntax and moved to the right at PF the minimum distance necessary to allow them to satisfy their phonological dependency. Extending this analysis to Romanian, however, is problematic in several ways. First, there is no evidence in Romanian verbal clitics for the type of phonological dependency (Wackernagel's second position effects) that underlies the Prosodic Inversion analysis. Hence, a clitic adverb like *mai* would have to be moved to various degrees of distance away from its syntactic position, depending on which auxiliaries are present in the structure. Second, there is no syntactic evidence independent of the pattern to be explained for generating clitic adverbs like *mai* at the left edge of the clause, the left edge of AuxP, or the left edge of VP. Third, PF movement would have to be idiosyncratically restricted to a subclass of clitics. I conclude that PF movement is not a viable solution to the problem posed by the distribution of *mai* in the context of clitic and non-clitic auxiliaries.

Romanian makes use of perfect, future, and conditional auxiliaries in compound tenses. They systematically differ from *a putea* and main verbs with respect to the distribution of *o*, *mai*, and SA inversion. In (9a), *o* follows the main verb. Many speakers consider the alternative order (*o a văzut*) with *o* preceding the perfect auxiliary ungrammatical while some scholars characterize it as archaic (de Kok 1989). *Mai* follows the perfect auxiliary instead of preceding it, as shown in (9b). (9b) suggests that *mai* is the last clitic in the Romanian cluster which includes the negative particle, clitic pronouns, auxiliaries, and *mai*, in that order. This is, in fact, the position taken in Dobrovie-Sorin (1994).

- (9) a. *A văzut-o.*
 aux3SG seen her
 '(He) has seen her.'
- b. *Nu l- am mai văzut.*
 neg him aux1SG still seen
 '(I) have not seen him anymore.'

Finally, these auxiliaries may not undergo SA inversion, as shown in (10) for the perfect auxiliary.

- (10) a. *A venit copilul de la magazin?* (Mallinson 1986, 5)
 aux3SG come child-the from the shop
 'Has the child come from the shop?'
- b. *Ce a spus Ion?*
 what aux3SG said John
 'What has John said?'

Placing the subject between the auxiliary and the main verb leads to ungrammaticality. Note, however, that there is SA inversion in (10), albeit between the non-finite main verb (appearing as a past participle) and the subject. This shows that inversion is not conditioned by the mere presence of a finite verbal element.

Another way of characterizing the phenomenon is to say that the clitic auxiliary is completely inactive in (10): whether it is present or absent in the structure does not affect other elements. This amounts to claiming that the clitic auxiliary is not present in the syntax. Put another way, it is not a head -- not a node in the tree -- but merely a phrasal affix. One approach is to stipulate the

status (clitic or head) of each functional feature in the lexicon of a given language. An alternative solution more in the spirit of OT goes roughly as follows. Functional features like [perfect], [future], [conditional], [potential], etc. are listed in the lexicon². Their status is derived from a competition among constraints on realizing features as separate syntactic heads, as lexical affixes (inflection) on existing syntactic heads, or as phrasal affixes (clitics) on existing phrases. To take an example, in Romanian the constraint on realizing the feature [potential] as a separate head is higher ranked than constraints realizing it as affixes (lexical and phrasal). Hence *putea* is realized as a node in the tree. For the feature [perfect], however, the constraint realizing it as a phrasal affix outranks the other two constraints. Hence, [perfect] is realized as a clitic. Nothing in the present analysis hinges on choosing among these alternatives, hence I take up the analysis at the point where the status of particular features has been determined³.

There is considerable pre-theoretical evidence for the view that clitics are phrasal affixes and need to be differentiated both from words and lexical affixes (though some cases of clitics may in fact be lexical affixes; this is the case for Romanian negative *ne-* ‘un-’ and some adverbs). To mention only a few taken from the work of Zwicky and Pullum (1983) and Zwicky (1985), lexical affixes show a high degree of selection with respect to their hosts; clitics, in particular second-position varieties, don’t. Clitics can attach to material already containing clitics; lexical affixes can’t. Syntactic rules can affect affixed words but not clitic groups nor clitics themselves (see also Klavans 1985; Anderson 1992, 1993; and Miller 1992). Moreover, clitic pronouns do not display any of the standard structural properties of nominal categories: they do not take a specifier or any complements; they cannot be modified nor conjoined.⁴ In addition, clitics obey word-order restrictions not

² See Everett (1996) for an independent claim that the lexicon contains phi-features.

³ Under the traditional view of morphology and phonology as post-syntactic components, clitics would be morpho-phonological spell-outs of the functional features contained in the lexicon or phrasal affixes (and hence differ from word-level affixes merely in terms of the domain of affixation). Such a proposal is in fact worked out in Klavans (1985) and Anderson (1992). From the perspective of OT, optimization is global (i.e. across components of the grammar) rather than serial. Thus, the present account will focus on the *interaction* between morphological constraints on clitics and syntactic constraints on syntactic elements they interact with.

⁴ The view that clitics occupy syntactic positions historically derives from the fact that in some Romance languages, clitic pronouns satisfy case properties (Kayne, 1975). As is well-known, this view is not without problems. Several Balkan languages, including Romanian and

constraining their non-clitic counterparts. A particularly challenging class is second-position clitics, where second-position must be prosodically defined (e.g. Serbo-Croatian). Anderson (1993), Halpern (1995), among others, have explicitly argued that Serbo-Croatian clitics cannot be handled in the syntax.

To return to Romanian, the basic claim here is that the auxiliary *putea* heads a syntactic projection while perfect, future, and conditional auxiliaries do not. SA inversion requires a verbal head (in C). In Romanian, auxiliaries other than *putea* are not syntactic heads. Hence, they do not trigger SA inversion.

The specific morphological proposal made here is that phrasal affixes, on a par with lexical affixes, are subject to alignment constraints, a claim previously made in Anderson (1996) and Legendre (1996). Applied to features, alignment constraints like EDGEMOST (Prince and Smolensky 1993) favor aligning their phonological realization at the (left) edge of a particular domain. (11) states that the domain is the extended V' projection of V. This will be motivated in the course of the analysis.

- (11) EDGEMOST(F, LEFT) = E(F): The PF realization of a feature [F] is left-aligned with the edge of the extended V' projection of the head [F] is associated with.

Such edge-alignment constraints are entirely familiar from the OT morpho-phonology literature. They are created by a generalized constraint schema called ALIGN(Category₁, Edge₁; Category₂, Edge₂) (McCarthy and Prince 1993a,b). Alignment constraints have recently been extended to focus constructions (Samek-Lodovici 1996, 1998; Legendre 1998a; Costa to appear). Their relevance to clitics has been amply demonstrated in Klavans (1985), albeit in a completely different framework.

As is well-known, one trait shared by Balkan languages is the existence of clitic auxiliaries. In this respect, it is interesting to note that their position in the clause is subject to variation. (12) shows a minimal contrast between Romanian and Bulgarian, two null-subject languages which make use of clitic auxiliaries in compound tenses.

- (12) a. R *Am plecat.*

Macedonian, require clitic doubling in some contexts, casting doubts on a simple case connection. In the context of an analysis of French Complex Inversion, Legendre (1998a) provides a preliminary account of case that incorporates case visibility, case agreement, and case economy.

- aux1SG left
'(I) have left.'
- b. B Pročel *sîm* knigata.
read aux1SG book-the
'I have read the book.'

In the absence of any other clitics, the perfect auxiliary is clause-initial in Romanian but in second position in Bulgarian. At first glance, EDGEMOST(PERF) seems simply to be satisfied in Romanian but violated in Bulgarian. It's not that simple, however, because some clitic auxiliaries do appear clause-initially in Bulgarian. This is the case for the future auxiliary *ște*.

- (13) a. R *Va* *mai* vedea-o.
will1SG again see her
'(I) will see her again.'
- b. B *Ște mu go* dadete.
will to=him it gave2SG
'(You) will give it to him.'

On the one hand, (13b) shows that Bulgarian is not a strict Wackernagel language. On the other, it shows the effect of EDGEMOST(FUT), completely parallel to its role in Romanian. We can make sense of the contrast between Romanian and Bulgarian in (12) and the contrast within Bulgarian between (12b) and (13b) in exactly the same terms. First, the position of auxiliary clitics derives from the interaction of two constraints rather than the effect of a single constraint like EDGEMOST(F). The second constraint, NONINITIAL(F), has a long history in Romance linguistics where it is known as the Tobler-Mussafia Law. In our terms, it is simply a constraint which disfavors clitics in intonational phrase-initial position. Cross-linguistic evidence that the domain is prosodic rather clausal or phrasal is discussed in details in Legendre (in press a).

- (14) NONINITIAL(F): [F] is not realized in intonational phrase-initial position.

Second, consider how the interaction of constraints (11) and (14) results in the pattern in (12). Note that the two constraints can never be satisfied at once. If a structure violates NONINITIAL(F), EDGEMOST(PERF) will be satisfied; this is the case in Romanian. Conversely, if a structure violates EDGEMOST(PERF),

NONINITIAL(F) will be satisfied; this is the case in Bulgarian. In other words, (12a) and (12b) can be simply derived from alternative rankings of two constraints on phrasal affixes: EDGEMOST(PERF) >> NONINITIAL(F) in Romanian versus NONINITIAL(F) >> EDGEMOST(PERF) in Bulgarian. In other words, constraints are violable and hierarchically ranked -- the most fundamental claim made by OT.

(13) involves a different functional feature: [future]. In both languages, the feature is realized as a phrasal affix in domain-initial position. Hence, EDGEMOST(FUT) must outrank NONINITIAL(F).

(15) Preliminary Rankings:

- a. Romanian: EDGEMOST(FUT), EDGEMOST(PERF) >> NONINITIAL(F)
 b. Bulgarian: EDGEMOST(FUT) >> NONINITIAL(F) >> EDGEMOST(PERF)

The symbol >> signals strict ranking. The use of a comma, as in the Romanian ranking, signals that the two EDGEMOST constraints are unranked with respect to each other. The future and the perfect auxiliary do not co-occur, hence there is no evidence for their relative ranking.

In summary, I have argued that Romanian clitic auxiliaries differ from non-clitic auxiliaries in that the former do not head syntactic projections. As phrasal affixes, their insertion into a clause is regulated by a hierarchy of alignment constraints which compete for the left clausal edge. This renders them syntactically inactive; hence they do not participate in SA inversion. Non-clitic auxiliaries head syntactic projections of their own, and as such, do participate in SA inversion. Romanian clitics appear in clause-initial position while many of their Bulgarian counterparts show Wackernagel effects. This follows from alternative rankings of two types of PF alignment constraints, EDGEMOST(F) and NONINITIAL(F).

2.2. Basic claims of Optimality Theory

The analysis of two clitic auxiliary patterns in Romanian and Bulgarian in section 2.1 illustrates some basic claims of OT (Prince and Smolensky 1993):

(i) Constraints are universal and violable in well-formed structures. This is possible because constraints are ranked with respect to one another. A

lower-ranked constraint may be violated so that a higher-ranked one may be satisfied. One further aspect will be demonstrated below: a given constraint violated by a grammatical sentence in one context may be fatal to an ungrammatical one in another because this constraint may interact with constraints that are relevant in one context but not to another.

(ii) The optimal candidate (and only the optimal candidate) is grammatical.

(iii) The relative ranking of constraints is determined on a language-particular basis. Thus a grammar is a particular ranking of universal constraints. Constraint re-ranking and violability account for cross-linguistic variation: a universal constraint may be violated in one language by virtue of being low-ranked and not violated in another by virtue of being high-ranked (exactly the case of Romanian vs. Bulgarian above).

(iv) Markedness is inherent to the model: all constraints other than faithfulness constraints -- which require that the output be maximally faithful to the input⁵ -- are markedness statements. For example, the markedness constraints that play a central role in the distribution of clitics include alignment constraints which form a family of constraints, EDGEMOST(F), where [F] stands for any functional feature. Specific aspects of markedness result from constraint ranking. Other markedness constraints will be introduced in the course of the analysis.

(v) The candidate set is universal. In practice, however, it is convenient to limit the evaluation to a subset of the universal set or the 'best of the lot'.⁶ The candidate set consists of alternative structural descriptions of the input. For our purposes, we may assume that the input consists of lexical items, argument structure, and functional features.

2.3. Clustering and finiteness effects

⁵ Faithfulness constraints are unique to OT (Prince and Smolensky, 1993). They include PARSE (all input material should be present in the output) and FILL (all output material should be present in the input). Legendre et al. (1995, 1998) document cross-linguistic effects of these two constraints in the context of *wh*-movement. PARSE also plays a role in the present analysis of imperatives (see section 4).

⁶ The present candidate sets are clearly a subset of the universal set because they satisfy some basic principles of X'-theory such as the presence of a head position in each projection and XPs restricted to complement or specifier position. The present analysis assumes that X'-theory principles are in *Gen*; hence, they are satisfied by all candidates. Ultimately, an OT theory of X' principles must be added.

Universally, clitics cluster. That is, they typically appear together and the cluster-internal order is fixed. This clustering behavior is one important property clitics share with lexical affixes. One way in which languages differ is with respect to the cluster-internal order of clitics. In Romanian, clitic pronouns precede tense/mood/aspect auxiliaries, as shown in (16a). In Bulgarian, it is, roughly speaking, just the reverse: tense/mood/aspect auxiliaries precede clitic pronouns.

- (16) a. R *L- am văzut.*
 him aux 1SG seen
 '(I) have seen him'.
 b. B *Dal sŭm mu go.*
 given aux 1SG to=him it
 '(I) have given it to him.'

Thus, languages differ not only with respect to the respective ranking of a particular EDGEMOST(F) constraint with NONINITIAL(F) -- as illustrated in section 2.1-- but also with respect to ranking within the EDGEMOST(F) family of constraints: EDGEMOST(ACC) outranks EDGEMOST(PERF) in Romanian; Bulgarian has the reverse order. Note however, that the relative order of dative and accusative clitics is shared by Romanian and Bulgarian, as shown in (17).

One important way in which this simple picture of Balkan languages hides greater complexity is with respect to finiteness. To fully appreciate the effect of finiteness, it is necessary to bring Macedonian into the picture.

- (17) a. R *Mi- o dă.*
 to me itFEM give3SG
 '(He) gives it to me.'
 b. M *Ti go dade.*
 to=you it gave3SG
 '(She) gave it to you.'
 c. B *Pokazax mu go pismoto.* (Tomić 1996)
 showed1SG to=him it the letter
 '(I) showed him the letter.'

All examples in (17) involve finite verbs. Despite the fact that Macedonian is genetically a South-Slavic language, its basic clitic distribution patterns like that of Romanian: EDGEMOST(DAT) and EDGEMOST(ACC) outrank

NONINITIAL(F) with the result that clitic pronouns appear clause-initially. When non-finite verbs like gerunds are taken into consideration, the pattern changes for Romanian and Macedonian: clitic pronouns follow the gerund in clause-initial position. The pattern remains the same in Bulgarian.

- (18) a. R Văzîndu-*l*...
 ‘Seeing him...’
 b. M Davajki *mu go*...
 giving to=him it
 ‘Giving it to him...’
 c. B Davaiki *mu go*...
 giving to=him it
 ‘Giving it to him...’

Finite verbs may in fact appear clause-initially in all three languages, but only in the absence of clitic pronouns in Romanian and Macedonian (see (17c) for Bulgarian).

- (19) a. R Poate scrie.
 can3SG write
 ‘(He) can write.’
 b. M Barav edna marka.
 looked1SG one stamp
 ‘(I) was looking for a stamp.’

An important generalization emerges from (17)-(19): bare verbs may appear in clause-initial position, regardless of finiteness. However, the presence of clitic pronouns affects the placement of finite verbs, at least in Romanian and Macedonian. This suggests that [tense/finiteness] is an active feature, on a par with features like [accusative] and [dative], and that alignment constraints should be extended to [tense/finiteness] or [T] (to avoid confusion with [F], which stands for any other functional features). Note that I am abstracting away from the actual complexity of finiteness (subsuming [tense], [person], and [number]) which does not affect the point to be made here.

An important source of independent evidence for the existence of constraint NONINITIAL(T) is provided by Germanic V2 languages. The striking property of these languages is well known: finite verbs appear in second position in declarative main clauses. Without going into the details necessary to determine the proper ranking of NONINITIAL(T) in these languages, it can be

observed that the Germanic V2 phenomenon can be assimilated to the Balkan finiteness distinction with respect to clitic placement despite the fact that NONINITIAL(T) is independent of clitics in Germanic (see Anderson 1993 for further discussion). This is possible because clitics, like finiteness, are analyzed as morphological affixes. In some V2 languages, such as Walpiri, finiteness features are in fact realized as a separate clitic auxiliary verb in second position. In other languages, including Balkan, finiteness features are realized on verbs themselves (unless a clitic realizing a separate feature like [perfect] is also present).

2.4. Language-internal variation

Returning to Romanian finite structures for the moment, we now face the task of determining the Romanian constraint ranking responsible for procliticization to finite verbs. The OT tableau format is used to display the formal competition among alignment constraints.

T1. Romanian procliticization to finite verbs

| I: [dat] [acc] [T] | E(DAT) | E(ACC) | E(T) | NIN(T) | NIN(F) |
|------------------------------|--------|--------|------|--------|--------|
| ☞ a. [_V mi-o dă] | | ⊗ | ⊗⊗ | | ⊗ |
| b. [_V mi dă o] | | **! | * | | * |
| c. [_V dă mi-o] | *! | ** | | * | * |
| d. [_V dă o mi] | **! | * | | * | * |
| e. [_V o mi dă] | *! | | ** | | * |
| f. [_V o dă mi] | **! | | * | | * |

T1 illustrates the graphic conventions of OT. The grammatical output is marked optimal (☞). Constraint ranking is indicated by leftmost constraints outranking rightmost ones. Violations of constraints are recorded as * in individual cells; *! are fatal violations for sub-optimal candidates while ⊗ are violations incurred by optimal candidates. To avoid cluttering, it is convenient to omit constraints which are satisfied by all candidates and to limit the input specification to relevant functional features..

Because OT defines a grammar as an optimization system, any aspect of grammar may, in principle, be determined by optimization. An important consequence exploited in the present analysis to the fullest is that phrase structure itself is optimized: it is built from the properties of the input (Prince and Smolensky 1993) and any structure not required by the lexical items of the input can be interpreted as violating *STRUCTURE.

- (20) *STRUCTURE(*STRUC): Avoid structure (Prince and Smolensky 1993; Legendre 1996)

Assuming the basic X'-Theory schema, the smallest phrasal projection for V is V', the constituent which includes V and its complement(s). The next phrasal projection is VP, the constituent which includes V' and its specifier. Under this 'minimalist' view of structure, V is the minimal clausal unit (as in Romanian *plouă* '(it) rains'). Following Samek-Lodovici (1996) and Grimshaw and Samek-Lodovici (1998), I take referential (and expletive) null subjects to be structurally unrealized. Thus, simple null subject clauses correspond to V' (if an object is present) while their counterparts in non-null subject languages are VPs. This is not independently stipulated for each language but rather is a consequence of optimization. For a given input, candidate structures of varying structural complexity are evaluated. To anticipate the discussion of verb movement in section 3, *STRUCTURE outranks alignment constraints. Hence, any candidate containing additional projections fares worse. These sub-optimal candidates are omitted in all tableaux, except where the competition directly pertains to *STRUCTURE. In the first phase of the analysis, we consider only candidates which include a single projection.

T1 illustrates two ways in which candidate a wins the competition. One, the highest ranked constraint violated by the optimal candidate a is outranked by a constraint violated by its competitors; this is the case for candidates c-f -- from which we derive that EDGEMOST(DAT) >> EDGEMOST(ACC). Two, given that closeness to an edge is a matter of degree, EDGEMOST constraints are gradient: multiple violations of a single EDGEMOST constraint occur as a given feature [F] is realized further away from the relevant edge; degree of violation is measured in terms of the free morphemes which separate a given clitic from the relevant edge, though nothing depends on this particular way of evaluating gradiency. Note that gradiency is fatal to candidate b: unlike a, b violates EDGEMOST(ACC) twice. In fact, the competition between candidates a and b yields a second partial constraint ranking: EDGEMOST(ACC) >> EDGEMOST(T). This is because candidates a and b violate these two

constraints but to varying degree: a violates EDGEMOST(ACC) once and EDGEMOST(T) twice; b violates EDGEMOST(T) once and EDGEMOST(ACC) twice. For a to be optimal, its worse violation has to be lower-ranked than b's worse violation. This is the case if EDGEMOST(ACC) outranks EDGEMOST(T). The three lexical items in the candidate structures each instantiate one functional feature; as a result, they all violate non-gradient NONINITIAL(F); these violations cancel out, providing no information about the relative ranking of NONINITIAL(F). Note that NONINITIAL(T)'s rank is indeterminate as well in T1. To recover its relative ranking, it is necessary to consider a structure in which it is surface-violated. This is the case in present tense structures such as (21).

- (21) Citesc cărți.
 read1SG books
 '(I) read books.'

The finite verb is clause-initial, in violation of NONINITIAL(T). However, it satisfies EDGEMOST(T). This indicates that EDGEMOST(T) >> NONINITIAL(T). This partial ranking is incorporated into tableau T2, which underlies (22a).

- (22) a. Am plecat.
 have1SG left
 '(I) have left.'
 b. Nu l-am văzut.
 neg him-have1SG seen
 '(I) have not seen him.'

T2. Romanian clitic auxiliaries

| I: [perf] [T] | E(PERF) | E(T) | NIN(T) | NIN(F) |
|-------------------------------|---------|------|--------|--------|
| a. [⊗] [v-am plecat] | | | ⊗ | ⊗ |
| b. [v plecat am] | *! | * | | |

In T2, a single clitic combines two features, [finite] and [perfect] -- the phrasal counterpart of lexical portmanteaux. Corresponding alignment constraints are either satisfied or violated at the same time; hence the two EDGEMOST constraints are unranked with respect to each other, and so are the two NONINITIAL constraints. One possible ranking, based on the fact that candidate

b loses to a, is that both EDGEMOST constraints (violated by candidate b) outrank both NONINITIAL constraints (violated by candidate a). In addition, (22b) shows that accusative clitics precede finite perfect clitics and finite verbs. Consequently, EDGEMOST(ACC) >> EDGEMOST(PERF) and EDGEMOST(T).

From the present perspective on inflectional morphology, the existence of gerund morphology (Romanian *ind/înd*) is taken to reflect the existence of a feature which we may refer to as [gerund]. Because gerunds are non-finite, constraints on [T] are irrelevant. The optimal structure is one in which the non-finite verbal form precedes the clitic pronouns; hence EDGEMOST(GER) >> EDGEMOST(ACC), as shown in T3.

T3. Romanian gerunds

| I: [ger] [acc] | E(GER) | E(ACC) | NIN(F) |
|---|--------|--------|--------|
| ☞ a. [_v vâzîndu- <i>l</i>] | | ⊗ | ⊗ |
| b. [_v <i>îl</i> vâzînd] | *! | | * |

The basic R ranking is summarized in (23).

- (23) Romanian ranking: E(GER) >> E(DAT) >> E(ACC) >> E(PERF) >> (E(T) >> NIN(T) >> NIN(F))

Returning to non-clitic auxiliary structures, one aspect of the distribution of clitics remains to be addressed. It is the fact that clitic pronouns procliticize to the auxiliary rather than the lexical verb. The pattern is given in (24).

- (24) *Îl pot vedea.*
 him can1SG see
 '(I) can see him.'

This pattern ought to shed light on the domain of EDGEMOST constraints. Each verbal element determines its own V'. If the domain of EDGEMOST(ACC) is verbal (V'), then EDGEMOST(ACC) is satisfied by each candidate: the clitic is located at the left edge of a (different) V' in each candidate. This leads to the wrong outcome because candidate a (which corresponds to (24)) fares worse than b: it violates EDGEMOST(T) which is satisfied by b. On the other hand, if the domain of EDGEMOST(ACC) is clausal, then EDGEMOST(ACC) is satisfied by

optimal candidate a and violated by sub-optimal candidate b. The problem with this characterization is that a clausal domain predicts that a clitic will precede overt subjects in Romanian, which is incorrect (see, for example, 8b). What we need is a domain which overlaps with the clausal domain in pro-drop contexts, is strictly verbal in the presence of an overt subject, and includes what Grimshaw (1991) calls extended projections of V. This unique domain can be characterized as the extended V' projection of the verbal head.

T4. Romanian non-clitic auxiliaries

| I: [acc] [T] | E(ACC) | E(T) | NIN(T) | NIN(F) |
|---|--------|------|--------|--------|
| ☞ a. [_V îl pot [_V vedea]] | | ⊗ | | ⊗ |
| b. [_V pot [_V îl vedea]] | *! | | * | * |

A fundamental claim of OT is that constraints are violable. We may verify the validity of the claim, based on the few Romanian patterns discussed so far. Out of the eight constraints listed in (23), six may be violated by optimal candidates (⊗)⁷. The only constraints not violated are EDGEMOST(GER) and EDGEMOST(NEG). Four constraints are active in the sense that their violation is fatal to some candidate (*!): EDGEMOST(GER), EDGEMOST(DAT), EDGEMOST(ACC), and EDGEMOST(PERF). A given constraint may be fatal to one candidate, e.g. EDGEMOST(ACC) in T4. The same constraint may also be violated by an optimal candidate -- in T1 --, because the two candidates in question belong to different candidate sets. Thus, competition is local in the sense that it is determined by a particular input.

The adverb *mai* 'again' displays idiosyncratic behavior.⁸ Recall that

⁷ Only five are actually violated in the Romanian tableaux. The sixth one, EDGEMOST(PERF) is violated by optimal candidates whenever a pronominal clitic co-occurs with a perfect auxiliary, as in (22b). Note that (22b) also shows that EDGEMOST(NEG) is unviolated.

⁸ A final complication in the distribution of Romanian clitics concerns the feminine singular accusative clitic pronoun *o*. In some contexts, *o* has the same distribution as its non-feminine counterparts. This is the case in simple tenses and non-clitic auxiliary structures (where it shows up as a proclitic) and in gerunds (where it shows up as an enclitic): (i) *O vede* '(I) see her'. With conditional and perfect auxiliaries, *o*, unlike its non-feminine counterparts, encliticizes to the non-finite verb: (ii) *Aș văzut-o* '(I) would see her'. As noted in de Kok (1989), Romanian dative and accusative clitics typically undergo desyllabification processes including vowel elision (*îmi* > *mi-*; *mă* > *m-*; *îi* > *i-*; *il* > *l-*) and diphthongization (*i-am dat* [iam]) before a following vowel. This reduction process appears to be general in the context of proclitics. It looks like Romanian imposes severe restrictions on the number of non-stressed syllables which can precede

mai is generally considered to be a clitic for two reasons. One, its preverbal position differs from that of standard adverbs, which are postverbal. Two, like pronominal clitics, it precedes lexical verbs in simple and compound tenses (hence it follows clitic auxiliaries) while it precedes non-clitic auxiliaries. The relevant data is given in (8) and (9). Its distribution in imperatives differs, however, from that of pronominal clitics. *Mai* precedes positive imperative verbs while pronominal clitics follow it (Dobrovie-Sorin 1994).

- (25) *Mai spune-mi!*
 again tell-IMP me
 ‘tell me again!’

The generalization is clear: *mai* always immediately precedes the verb. This strict distribution suggests a prefix rather than a clitic status. In other words, *mai* behaves like French *re-* ‘again’ as in *relire* ‘read again’.⁹ Together, Italian and Romanian point to the unreliability of the orthographic conventions: Italian *lo* and Romanian enclitics are clitics despite the fact that they are graphically attached to the verb while Romanian *mai* is a prefix despite the fact that it is not graphically attached to the verb. As a lexical affix, *mai* is subject to an EDGEMOST constraint whose domain is lexical rather than phrasal: *mai* must be aligned with the left edge of the head it is associated with.

2.5. Cross-linguistic variation

In OT, all cross-linguistic variation results from re-ranking of universal constraints. The theory predicts both minimal and wide-ranging re-rankings. To begin with, consider a minimal change. Romanian finite clitic auxiliary

a prosodic (verbal) head. Regardless of what the exact nature of the phonological constraints may turn out to be, it appears that Romanian economizes on phonological material as long as morphemes conveying important featural information are recoverable. *O* is the only Romanian clitic pronoun which consists of a single vowel. This means that it cannot undergo phonological reduction without loss of corresponding featural information.

⁹ A reviewer points out that *mai* doesn't show a high degree of selection with respect to its host. In particular, *mai* may modify adjectives or adverbs, in addition to verbs: (i) *copilul mai mare* ‘the older child’ (ii) *vreau să vină mai curînd* ‘I want him to come sooner’. A similar observation can be made in French. The lexical affix *re-* can modify verbs, nouns, and adjectives: (i) *réélire* ‘reelect’ (ii) *réélection* ‘reelection’ (iii) *rééligible* ‘reelectable’. This suggests that a high degree of host selection is not a reliable criterion for lexical affixes, contrary to the claim made in Zwicky and Pullum (1983) and Zwicky (1985).

clitics are allowed in clause-initial position (T2) because EDGEMOST constraints, in particular EDGEMOST(PERF) and EDGEMOST(T), outrank NONINITIAL(T). If, however, the ranking is reversed to NONINITIAL(T) >> EDGEMOST constraints, then finite auxiliary clitics may not appear in clause-initial position. The corresponding competition is sketched out in T5.

T5. Re-ranking prediction

| I: [perf] [T] | NIN(T) | E(PERF) | E(T) | NIN(F) |
|---|--------|---------|------|--------|
| ⊗ a. [_v past participle aux[T, perf]] | | ⊗ | ⊗ | |
| b. [_v aux[T, perf] past participle] | *! | | | * |

The resulting language differs minimally from Romanian. This is because the change will not affect gerunds for which [T] is irrelevant. Crucially, it will not affect finite verbs either. NONINITIAL(T) is not violated by any optimal structure in which clitic pronouns precede the finite verb. As can be verified in tableau T1, placing NONINITIAL(T) at the top of the hierarchy will not affect the outcome of optimization.

Such a language exists within the Balkan group: Macedonian. As discussed in Tomić (1996), Macedonian clitics follow non-finite verbal forms. A Macedonian sentence corresponding to the optimal structure in T5 is given in (26a). See Legendre (in press b, c) for a fuller analysis of Macedonian.

- (26) a. M Dojden *e*.
 come have3SG
 ‘(He) has come.’
 b. M Barav *edna marka*.
 looked1SG one stamp
 ‘(I) was looking for a stamp’

In the absence of any clitics, a violation of NONINITIAL(T) will not prevent a finite verb in Macedonian from appearing in clause-initial position, as (26b) reveals. This is because the alternative order -- *edna marka barav* -- involves adding structure to provide a landing site for the moved NP. This candidate violates *STRUCTURE and *t, as shown in T6. Independent evidence for economy constraints outranking alignment constraints comes from questions and imperative structures to be discussed in sections 3 and 4, respectively.

T6. Macedonian finite verbs

| I: [T] | *STRUC | *t | NIN(T) | E(T) |
|---|--------|----|--------|------|
| ☞ a. [_V barav edna marka] | | | ⊗ | |
| b. [_{XP} edna marka [_V barav t]] | *! | * | | |

The reverse ranking with the more general constraint outranking the more specific one -- NONINITIAL(F) >> NONINITIAL(T) --, on the other hand, predicts effects of NONINITIAL(T) to be invisible. This is the case in Bulgarian, as repeated in (27): verbs appear in clause-initial position, whether they are finite or not. The consequence is the well-known Wackernagel effect: clitics cluster in second-position. See Legendre (in press a,b) for details.

- (27) a. B Dal *sŭm mu go*.
 given aux1SG to=him it
 ‘(I) have given it to him.’
- b. B Pokazax *mu go pismoto*.
 showed1SG to=him it the letter
 ‘(I) showed him the letter.’

The corresponding competitions are displayed in T7 and T8, respectively.

T7. Bulgarian non-finite verbs

| I: [perf] [dat] [acc] [T] | NIN(F) | E(PERF) | E(DAT) | E(ACC) | E(T) | NIN(T) |
|------------------------------------|--------|---------|--------|--------|------|--------|
| a. ☞ [_V dal sŭm mu go] | | ⊗ | ⊗⊗ | ⊗⊗⊗ | ⊗ | |
| b. [_V sŭm mu go dal] | *! | | * | ** | | * |
| c. [_V dal mu go sŭm] | | ***! | * | ** | *** | |
| d. [_V mu go sŭm dal] | *! | ** | | * | | |

T8. Bulgarian finite verbs

| I: [T] [dat] [acc] | NIN(F) | E(DAT) | E(ACC) | E(T) | NIN(T) |
|---|--------|--------|--------|------|--------|
| a. $\text{[}_V\text{ pokazax mu go pismoto]}$ | | ⊗ | ⊗⊗ | | ⊗ |
| b. $\text{[}_V\text{ mu go pokazax pismoto]}$ | *! | | * | ** | |

Under the present analysis, languages with Wackernagel effects (Bulgarian) and languages without (Romanian) are subject to the same constraints but to different constraint rankings. Thus, Wackernagel effects are simply the consequence of the way the competition plays out. There is no need for any special mechanism such as Long Head Movement (Rivero 1994).

Partial rankings for Macedonian and Bulgarian are stated in (28a,b). See Legendre (1998b) for details. For comparative purposes, the Romanian ranking is repeated in (28c).

- (28) a. Bulgarian ranking: NONIN(F) >> E(PERF) >> E(DAT) >> E(ACC) >> E(T) >> NONIN(T)
 b. Macedonian ranking: NONIN(T), E(PERF) >> NONIN(F) >> E(DAT) >> E(ACC) >> E(T)
 c. Romanian ranking: E(DAT) >> E(ACC) >> E(PERF) >> E(T) >> NONIN(T) >> NONIN(F)

Under these rankings, Bulgarian and Romanian are maximally different, due to reverse rankings of NONINITIAL(F) and EDGEMOST(F) constraints. NONINITIAL(F) >> EDGEMOST(F) induces Wackernagel effects while EDGEMOST(F) >> NONINITIAL(F) induces clause-initial clitics. Macedonian lies in between: it shares the subranking EDGEMOST(PERF) >> NONINITIAL(F) with Romanian and EDGEMOST(F) outranked by a NONINITIAL constraint with Bulgarian.

Preliminary observations indicate that further re-rankings can be found in languages of the world. In Balkan, as we have seen, dative precede accusative clitics. In French, it is the reverse order in the third person. Lummi (Salish) places accusative before nominative clitics while Walpiri exhibits the reverse order. In Bulgarian, the future clitic precedes the perfect which, in turn, precedes clitic pronouns. In Serbo-Croatian, dative and accusative clitics precede reflexives; in Slovene and (West Slavic) Czech, reflexives precede other clitic pronouns. The variation within the South-Slavic family alone is remarkable.

As demonstrated above, the relative ranking of EDGEMOST and NONINITIAL(F) differentiates second position clitic languages from other languages. Second position clitics are found in many unrelated languages (including Walpiri, Luiseño, Pashto, etc.) and they are not correlated with any particular internal cluster order of clitics.

To summarize section 2, I have argued that an OT analysis of the clustering properties of clitics in terms of universal but violable alignment and minimal structure constraints is all that is needed to handle the cross-linguistically variable cluster-internal order and, to a large extent, their variable position in the clause. I have also argued that finiteness, its effects on clitic placement in Balkan as well as the Germanic V2 phenomenon, are best understood by assimilating finiteness or [T] to other affixes subject to alignment constraints. This proposal will receive important confirmation from the analysis of imperatives (section 4).

3. *Verb movement in Romanian questions*

The focus of section 2 has been the distribution of clitics in finite and non-finite declarative structures. Additional evidence for the validity of the alignment-based analysis rests on investigating its consequences with respect to more complex structures which may involve verb movement. This entails examining the other parts of the Romanian puzzle. We consider questions first (repeated from (10)) and then turn to imperatives.

- (29) a. Ce *a* spus Ion?
 ‘What has John said?’
 b. A venit copilul de la magazin?
 ‘Has the child come from the shop?’

Following standard assumptions, the *wh*-phrase *ce* present in the input to (32a) is located in the specifier position of the highest projection, forming a chain with a coindexed trace in object position. A distinct projection is needed for *ce* because the VP internal subject hypothesis is adopted here: the subject *Ion* fills the specifier of the lower VP. Following Grimshaw (1991), all extended projections of V are considered VPs: hence the *wh*-phrase is shown to be in the highest VP in subsequent tableaux. Romanian shows overt *wh*-movement as well as evidence that the verb is in the head position of the projection which

includes the *wh*-phrase in specifier position. This is because the overt subject follows the lexical verb.

Legendre et al. (1995, 1998) argue that languages with overt *wh*-movement are languages in which it is more important for *wh*-phrases to be in a scopal position than to satisfy economy of movement. These languages may be accounted for by ranking *STRUCTURE and *t (Avoid movement traces, Legendre et al. 1995, 1998) below the constraint that has the effect of placing *wh*-phrases in the highest spec position (languages with in-situ *wh* have the reverse ranking). Grimshaw (1997a) argues that SA inversion in English results from the interaction of OPSPEC and OBHD.

- (30) OPERATOR IN SPECIFIER = OPSPEC: Operators are in specifier position.
(Grimshaw, 1997a)
OBLIGATORY HEADS = OBHD: A projection has a head. (Grimshaw, 1997a)

OPSPEC requires the presence of a projection with an empty specifier into which object *wh*-phrases move. The specifier position may, alternatively, be occupied by a yes/no operator. This projection has an empty head position which in turn must be filled to satisfy OBHD. The resulting competition can be first observed in yes-no questions with a non-clitic auxiliary.

- (31) a. Poate Ion veni mâine?
b. Can John come tomorrow?

In (31a), the subject NP follows the auxiliary just as its English counterpart in (31b). Non-clitic auxiliaries head their own VP (and select for a VP complement). The presence of a lexical verb and a non-clitic auxiliary in the input leads to candidate structures minimally consisting of two VPs (candidate a). The higher VP provides a specifier slot for the null illocutionary operator (Op in T9). Hence, the modal auxiliary may appear in the highest empty head position without requiring additional structure. All candidates in T9 satisfy OPSPEC; hence it is omitted.

T9. Romanian yes-no questions with a non-clitic auxiliary

| I: [T] | OBHD | *STRUC | *t | E(T) | NIN(T) | NIN(F) |
|---|------|--------|----|------|--------|--------|
| a. $\text{[}_{VP} \text{Op poate [}_{VP} \text{Ion veni]]}$ | | | | | ⊗ | ⊗ |
| b. $\text{[}_{VP} \text{Op poate [}_{VP} \text{[}_{V'} \text{veni [}_{VP} \text{Ion t]]}]}$ | | *! | * | | * | * |
| c. $\text{[}_{VP} \text{Op [}_{VP} \text{Ion [}_{V'} \text{poate [}_{VP} \text{t veni]]}]}$ | *! | * | * | | | |

The minimal structure candidate a competes with candidates b and c which exhibit alternative word orders necessitating additional structure. The latter, of course, violate *STRUCTURE. Note that, as with all constraints in OT, computation with *STRUCTURE violations is merely relative (across candidates). Candidates a and c violate disjoint sets of constraints; thus, one of the structural constraints violated by c must outrank all the alignment constraints violated by a for a to be optimal. We already know that $\text{EDGEMOST(T)} \gg \text{NONINITIAL(T)}$ in Romanian. Based on T9, the ranking of the structural constraints is thus indeterminate. The one given in T9 is only one possible ranking, but it is partly confirmed below in T10 and partly later in the section devoted to imperatives.

Note that the analysis of (31a) makes a prediction: the presence of a clitic auxiliary will not change the inversion pattern (V-subject) because (a) the inversion pattern is determined by the ranking of a syntactic constraint (OBHD) and (b) clitics are not in the syntax. As proposed earlier, the placement of clitic auxiliaries is partly determined by EDGEMOST(F) , which favors them at the left edge of the clause. The competition resulting in the grammaticality of (29a) is displayed in T10. A similar analysis applies to (29b).

T10. Romanian *wh*-questions with a clitic auxiliary

| I: [perf] [T] | OPSPEC | OBHD | *STRUC | *t | E(PERF) | E(T) |
|---|--------|------|--------|--------|---------|------|
| a. [_{VP} ce [_{V'} a spus [_{VP} Ion [_{V'} t]]]] | | | ⊗ | ⊗ ⊗ | | |
| b. [_{VP} Ion [_{V'} a spus ce]] | *! | | | | | |
| c. [_{VP} ce [_{VP} Ion [_{V'} a spus t]]] | | *! | * | * | | |
| d. [_{VP} ce [_{V'} spus [_{VP} Ion [_{V'} a tt]]]] | | | * | ** | **! | ** |
| e. [_{VP} ce [_{V'} spus a [_{VP} Ion [_{V'} t]]]] | | | * | ** | *! | * |
| f. [_{VP} ce [_{V'} a [_{VP} Ion [_{V'} spus t]]]] | | *! | * | * | | |

Candidates a and b illustrate a competition between movement and in-situ *wh*-strategies. Candidate b loses because of the high-ranking of OPSPEC in Romanian. The high-ranking of OPSPEC, in turn, requires an additional projection whose specifier is the landing site for moved *wh*-phrases like *ce*. This leads to violations of *STRUCTURE for all candidates except the in-situ candidate structure b. The additional projection needed to house *ce*, in turn, forces verb movement to satisfy OBHD. If such movement fails to occur, the result is sub-optimal (candidate c and f). XP and X movement incur *t violations which cancel out for candidates a, d, and e. T10 illustrates the fact that lower-ranked constraints determine the outcome of the competition whenever violations of higher-ranked constraints cancel out. This is the case for candidates d and e which are eliminated because of EDGEMOST(PERF) violations. For example, in candidate d, [perf] is not realized at the left edge of the extended V' projection of the verbal head, i.e. the highest V'. T10 yields the following partial ranking: OPSPEC, OBHD >> *STRUCTURE.

One question T10 raises is why, given the high ranking of E(PERF), the clitic auxiliary does not surface preceding the *wh*-phrase *ce* rather than the past participle *spus*, thus satisfying EDGEMOST(PERF) and EDGEMOST(T) perfectly. I believe that the answer lies in prosodic constraints which insure that clitics are prosodically parsed with the verbal head. Such prosodic constraints are clearly at work in Bulgarian and Macedonian, as demonstrated in Legendre (in press a,b). A better understanding of the prosodic properties of Romanian is needed however before a fuller account can be provided.

To summarize, Romanian does have verb movement, but only as a

consequence of wh-movement or its analog in yes-no questions. The pattern of inversion in Romanian questions is the same in the presence or absence of a clitic auxiliary while it differs in the presence of a non-clitic auxiliary. Under the present analysis, this follows from the claim that non-clitic auxiliaries head syntactic projections of their own but clitic auxiliaries do not. The pattern of inversion is to a large extent determined by a set of three conflicting structural constraints: OBHD vs. *STRUCTURE and *t. OBHD outranks both *STRUCTURE and *t; hence Romanian favors verb movement with the result that the verb precedes the subject.¹⁰ The relative ranking of morphological alignment constraints previously established on the basis of declarative sentences ensures that phrasal affixes appear within the extended V' projection of V in questions as well. Thus, there are two distinct reasons to front elements: OBHD in syntax, EDMOST(F) in PF. Note that this proposal is different from Prosodic Inversion (Halpern 1995) in that it does not rearrange at PF elements that are positioned in the syntax first.

4. A comparative study of Romanian imperatives

Languages with pre-verbal object clitics in declarative sentences frequently show postverbal object clitics in positive imperatives. This is, for example, the case in Romanian.

- (32) a. *L-am văzut.*
 'I have seen him.'
 b. *Lasă mă!*
 'Leave-IMP me!'

This kind of alternation in object clitic position has been repeatedly taken as evidence for verb movement to a position higher than that containing the clitic pronouns (e.g. Rivero 1994; Rivero and Terzi 1995; Rooryck 1992; Zanuttini 1997). For example, Romanian is one of the languages for which Rivero and Terzi posit a strong imperative feature in C inducing verb movement prior to spell-out. Under their analysis, languages which have a strong imperative

¹⁰ As in French, there is an alternative and more colloquial way in Romanian of formulating yes-no questions which consists of assigning special intonation to a statement in order to express interrogative illocutionary force. These necessitate a separate account which builds on well-attested tonal means of expressing functional features cross-linguistically.

feature in C are languages which show true imperative morphology only in positive imperatives; languages in which both positive and negative imperatives show true imperative morphology (e.g. Bulgarian) have an imperative feature in I.¹¹ Romanian is of the first kind, since negative imperatives show surrogate infinitive morphology.

- (33) *Nu mă lăsa!*
 ‘Don’t leave-INF me!’

Interestingly enough, other Romance languages -- for example, Italian and Spanish -- display the same change in morphology as Romanian but without the shift in clitic position. This is shown for Italian in (34).¹²

- (34) a. *Leggilo!*
 Read-IMP-it
 ‘Read it!’
 b. *Non leggerlo!*
 not read-INF-it
 ‘Don’t read it!’

All analyses referred to in the previous paragraph, despite differences in implementation, share the view that verb movement in imperatives is morphologically conditioned. The alternative view that verb movement is structurally but never morphologically conditioned predicts that imperatives do not involve verb movement.

The issue of whether imperatives are finite or non-finite must also be

¹¹ Rivero and Terzi (1995) claim that "imperative Vs with distinctive morphology either have a distinctive syntax (Modern Greek, Spanish), or distribute like other Vs (Serbo-Croatian, Ancient Greek)... the second type is the Wackernagel language". The distinctive syntax which characterizes the first type consists of two properties: (i) Modern Greek and Serbo-Croatian do not allow true imperatives to be negated -- they resort to surrogate morphology --; (ii) imperatives show encliticization while declaratives show procliticization. Macedonian is a real challenge to their analysis: the morphology is specific to imperatives and clitics follow the verb in both positive and negative imperatives. Thus, Macedonian does not fit the first type since it allows true imperatives to be negated. Nor does it fit the second type: finite declaratives show a different syntax, i.e. procliticization. Moreover, Macedonian is not a Wackernagel language under Rivero and Terzi’s definition. See Legendre (in press b, c) for a detailed analysis of Macedonian.

¹² Italian optionally allows the Romanian order neg-clitic-verb *non lo leggere!*, at least in some dialects and/or registers (Luigi Burzio, personal communication). This means that certain varieties of Italian have the ‘Romanian’ ranking EDGEMOST(ACC) >> EDGEMOST(IMP).

addressed. Contra Rivero and Terzi (1995) and Zanuttini (1997), I propose that we derive the answer from actual imperative morphology but leave aside its surrogate or non-surrogate status.¹³ On an analogy with gerund and perfect forms, imperative morphology realizes an [imperative] feature. Unlike [ger], which is realized as non-finite morphology, and [perf], realized as finite morphology, [imp] may be finite or non-finite in Romanian. Imperative morphology is finite if it carries inflection reflecting distinctions of person and number. The inflection may be specific to imperatives or make use of surrogate morphology considered finite independently of imperatives: i.e. indicative or subjunctive. It is non-finite if it makes use of a surrogate infinitive. Romanian singular imperative morphology is finite (and completely surrogate) except in the presence of the negative marker *nu*, in which case it is non-finite (identical to infinitive):

| (35) | Conjugation | Infinitive | Positive Imperative | Negative Imperative |
|------|-------------|------------|----------------------------|---------------------|
| | class | | (SG) | (SG) |
| 1 | 'sing' | cînta | cîntă (= 3s indic. pres.) | nu cînta |
| 5 | 'kill' | omorî | omoară (= 3s indic. pres.) | nu omorî |
| 2 | 'see' | vedea | vezi (=2s indic. pres.) | nu vedea |
| 3 | 'go' | merge | mergi (=2s indic. pres.) | nu merge |
| 4 | 'die' | muri | mori (=2s indic. pres.) | nu muri |

In OT terms, the variation in finiteness means that, universally, both finite and non-finite candidates compete. In Romanian (as well as Italian) then, a finite candidate wins the positive imperative competition; a non-finite candidate wins the negative imperative competition; in Bulgarian, a finite candidate wins both competitions. Sadock and Zwicky (1985) report the existence of a rare case of imperatives: in Yokuts (a native language of California), the imperative form is in most dialects a bare verb stem. This suggests that the optimal candidate in Yokuts is non-finite, as predicted

¹³ Both Rivero and Zanuttini consider morphology surrogate if imperative inflection is identical to a second person form in another tense/mood. For them, only a subclass of Romanian positive imperatives can be said to exhibit surrogate morphology (classes 1 and 5, as shown in (35)). Note that the alternative view I develop in the main text is embedded in a larger OT-based perspective on morphological forms whereby a language, whenever possible, exploits existing resources to mark new categories. In forthcoming work, I analyze the actual morphology of imperatives in Romance and Balkan as reflecting a competition between their syntax (no subject, hence no agreement) and their semantics (second person).

possible by the theory (no information is available on negative imperatives). This rare case also reveals that, universally, finite imperative morphology is less marked than non-finite morphology (regardless of whether finite morphology is specific to imperatives or not). This suggests two OT avenues. One, the input to imperatives contains both features [imp] and [T]. Two, non-finite imperative morphology follows whenever the feature [T] is not parsed. That is to say, non-finite candidates violate an Input-Output faithfulness constraint called PARSE(T).

(36) PARSE(T): The input feature [T] must be parsed in the output.

One final aspect of the morphology needs consideration. Finite imperative morphology, at least in most Romance and Balkan languages, is realized as verbal inflection rather than some sort of particle (as is the case in some other languages). This means that a single form instantiates two features, [imp] and [T]. As expected, such forms are constrained both by EDGEMOST(IMP) and EDGEMOST(T). Following a suggestion made by Paul Smolensky (personal communication), I propose that such forms are also constrained by the conjunction of EDGEMOST(IMP)& EDGEMOST(T) which outranks the simpler constraints. Such conjunctions have been argued to operate both in phonology (Smolensky 1993, 1995, 1997) and syntax (Legendre et al, 1998; Legendre, in press a). They are known as *local conjunctions* in the literature because the conjoined constraint is violated only when the conjuncts are both violated within a common local domain. Further discussion of local conjunctions follows the presentation of the candidate set in T11 which concerns positive imperatives in Romanian.

Recall that that the forms *lasă* and *lăsa* are finite and non-finite, respectively. This has important consequences for the applicability of certain constraints to a given candidate. Non-finite candidates are annotated with -T in the next few tableaux.

T11. Romanian positive imperatives

| I: [imp] [T] [acc] | *STRUC | * _t | E(IMP) &E(T) | PARSE(T) | E(ACC) | E(IMP) | E(T) | NIN(T) |
|--------------------------------|--------|----------------|-----------------|----------|--------|--------|------|--------|
| ☞ a. [_v lasă mă] | | | | | ⊗ | | | ⊗ |
| a'. [_v lăsa mă] -T | | | | *! | * | | | |

| | | | | | | | | |
|---|----|---|----|----|---|---|---|---|
| b. [_V mǎ lasă] | | | *! | | | * | * | |
| b'. [_V mǎ lăsa] -T | | | | *! | | * | * | |
| c. [_V lasă [_V mǎ t]] | *! | * | | | * | | | * |
| c'. [_V lăsa [_V mǎ t]] -T | *! | * | | * | * | | | |

The candidate set includes verb movement candidates c and c'. Given the relative ranking of the relevant constraints -- *STRUCTURE, *t >> EDGEMOST constraints as shown in section 3 -- candidates c and c' are immediately disqualified. We know that the optimal candidate a violates EDGEMOST(ACC) and NONINITIAL(T). The question is: why aren't a', b, or c' optimal instead? They violate constraints that are lower ranked than EDGEMOST(ACC). The answer must be that additional constraints are at work. One is PARSE(T). Ranking PARSE(T) higher than the highest-ranked constraint violated by optimal a says that it is preferable in Romanian to have encliticization in imperatives (and violate EDGEMOST(ACC)) than switch to non-finite morphology (and violate PARSE(T)). This partial ranking eliminates two non-finite candidates a' and b'. This leaves candidate b which does not violate PARSE(T) and yet is non-optimal. This is where local conjunction comes in. Note that candidate b violates both EDGEMOST(IMP) and EDGEMOST(T). It is conceivable that there is a stronger requirement on a morpheme which instantiates more than one feature, formally characterizable as the conjunction of EDGEMOST(IMP) and EDGEMOST(T). From the competition between candidates a and b we can derive one relative ordering of the conjoined constraint: EDGEMOST(IMP)&EDGEMOST(T) >> EDGEMOST(ACC). One important restriction on conjoined constraints is their local domain. It is not the case that any two constraints can be conjoined. Only constraints relevant to a single local domain can be.¹⁴ My claim, then, is that portmanteau morphemes are the locus of such constraint interaction. It is a welcome possibility, I believe, for synthetic morphology has, to the best of my knowledge, never received any formal consideration by syntacticians incorporating inflectional morphology to syntax.

Of course, the theory predicts several types of re-rankings. Two important ones are considered here. The reverse order, clitic-verb, is predicted

¹⁴ Note that the Romanian plural imperative is finite in both positive and negative contexts; hence reference to number features must ultimately be incorporated to the present account.

if the conjoined constraint is demoted below EDGEMOST(DAT), EDGEMOST(ACC). Under this re-ranking, candidate b is the optimal one in T11. Several cases of procliticization in positive imperatives are in fact acknowledged in Rooryck (1992). Note that two of the languages belong to the Balkan group (Tsakonian is a Modern Greek dialect).

- | | | |
|------|-------------------------|-------------------------------|
| (37) | a. Brazilian Portuguese | <i>Me da!</i> 'Give me' |
| | b. Tsakonian | <i>Mou pe!</i> 'Tell me' |
| | c. Albanian | <i>Më thuaj!</i> 'Tell me' |

Another re-ranking prediction is made by re-ranking PARSE(T) below EDGEMOST(ACC) or EDGEMOST(IMP). It yields procliticization with non-finite verbal morphology; that is, candidate b' becomes optimal. It remains to be seen whether Yokuts instantiates this ranking.

Under the present analysis, positive imperatives in Romanian are finite because, among other things, they satisfy PARSE(T). However, PARSE(T) is violated in Romanian negative imperatives. Can we also derive the preverbal position of clitics in negative imperatives from the ranking in T11? The answer is yes, as shown in T12.

T12. Romanian negative imperatives

| I: [neg] [imp] [T] [acc] | E(NEG) | E(IMP)& E(T) | PARSE(T) | E(ACC) | E(IMP) | E(T) |
|--------------------------------------|--------|-----------------|----------|--------|--------|------|
| a. [_V nu mǎ lǎsa] - T | | | ⊗ | ⊗ | ⊗⊗ | ⊗⊗ |
| a'. [_V nu mǎ lasǎ] | | **! | | * | ** | ** |
| b. [_V nu lǎsa mǎ] - T | | | * | **! | * | |
| b'. [V' nu lasǎ mǎ] | | *! | | ** | * | * |
| c. [_V lǎsa nu mǎ] -T | *! | | * | ** | | |
| c'. [_V lasǎ nu mǎ] | *! | | | ** | | |

Consider how this result is achieved. Assume that the alignment constraint on the feature [neg] outranks all other EDGEMOST constraints (*nu* precedes all other clitics discussed here). The fact that candidate c is sub-optimal shows that EDGEMOST(NEG) outranks PARSE(T), violated by optimal candidate a. Whenever EDGEMOST(NEG) is satisfied, all other competing EDGEMOST constraints are violated. In particular, finite candidates violate EDGEMOST(IMP)&EDGEMOST(T) while non-finite candidates vacuously satisfy the conjoined constraint. Under the ranking EDGEMOST(IMP)&EDGEMOST(T) >> PARSE(T), all finite candidates are eliminated from the competition. This leaves the non-finite ones, a and b, which differ with respect to the next lower-ranked constraint, EDGEMOST(ACC). Because of gradiency, only candidate a survives this step in the optimization process. Hence, candidate a is optimal.

The remainder of this section is devoted to imperatives in languages like Italian which share the morphological properties of Romanian but differ in the placement of clitics in negative imperatives. I am assuming with Zanuttini (1997) that *non* is a head, and that PARSE(NEGSCOPE) is undominated. T13 shows that minimal re-ranking predicts the Italian pattern. The forms *leggi* and *legger(e)* are finite and non-finite, respectively.

T13. Italian negative imperatives

| I: [imp] [T] [acc] | E(IMP) &E(T) | PARSE(T) | E(IMP) | E(ACC) | E(T) |
|--|-----------------|----------|--------|--------|------|
| a. [_V non [lo leggere]] -T | | * | **! | * | |
| a'. [_V non [lo leggi]] | **! | | ** | * | ** |
| b. [_V non lo [leggere]] -T | | * | **! | * | |
| b'. [_V non lo [leggi]] | **! | | ** | * | ** |
| c. [_V non [leggerlo]] - T | | ⊗ | ⊗ | ⊗⊗ | |
| c'. [_V non [leggi/lo]] | *! | | * | ** | * |

Recall that in Romanian, candidate a wins in T12: it violates EDGEMOST(IMP) twice but higher-ranked EDGEMOST(ACC) only once; its closest competitor b violates EDGEMOST(ACC) twice. In Italian (T13), the optimal candidate is c. Unlike its closest competitors, a and b, c violates EDGEMOST(IMP) only once versus twice for a and b. On the other hand, c violates EDGEMOST(ACC) twice which is violated only once by a and b. Compared to Romanian, the Italian pattern follows simply from the re-ranking of EDGEMOST(IMP) and EDGEMOST(ACC). In Romanian, EDGEMOST(ACC) >> EDGEMOST(IMP). In Italian, it is the reverse: EDGEMOST(IMP) >> EDGEMOST(ACC).

Consider the prediction that the ranking in T13 makes for Italian positive imperatives. In the absence of *non*, EDGEMOST(IMP)&EDGEMOST(T) can be satisfied. PARSE(T) can also be satisfied by candidates which satisfy the conjoined EDGEMOST constraint. The competition trickles down to the very ranking established on the basis of T13, i.e. EDGEMOST(IMP) outranking EDGEMOST(ACC). The optimal candidate must be the one which satisfy EDGEMOST(IMP), that is a structure in which the accusative clitic follows the verb. This is indeed the correct prediction, as shown in (37a). The corresponding tableau is given in T14.

T14. Italian positive imperatives

| I: [imp] [T] [acc] | *STRUC | *t | E(IMP) &E(T) | PARSE(T) | E(IMP) | E(ACC) | E(T) | *IN(T) |
|---|--------|----|-----------------|----------|--------|--------|------|--------|
| ☞ a. [_v leggi _{lo}] | | | | | | ⊗ | | ⊗ |
| a'. [_v legger _{lo}] -T | | | | *! | | * | | |
| b. [_v lo leggi] | | | *! | | * | | * | |
| b'. [_v lo leggere] -T | | | | *! | * | | * | |
| c. [_v leggi [_v lo t]] | *! | * | | | | | | * |

To summarize the main points of section 4, I have proposed that the Romanian order verb-clitic in positive imperatives is regulated by a conjoined constraint, EDGEMOST(IMP)&EDGEMOST(T), which outranks the constraints it is a conjunction of, as well as EDGEMOST(ACC). The only way the conjoined constraint can be satisfied is by having clitic pronouns follow the verb. Wherever the conjoined constraint is inapplicable, the ranking EDGEMOST(ACC) >> EDGEMOST(T) forces the decision and yields procliticization (i.e., in declaratives and questions). In negative imperatives, EDGEMOST(IMP)&EDGEMOST(T) can never be satisfied due to the presence of the negative particle. The solution is to be unfaithful to the input and violate PARSE(T). The best candidate becomes the one which best satisfies EDGEMOST(ACC) >> EDGEMOST(IMP), namely procliticization. Thus, finite and non-finite candidate structures compete for optimization in all imperatives. Finally, I have illustrated minimal re-ranking effects in Italian.

Dobrovie-Sorin (1994, 1995) offers an alternative analysis in which comparatively few functional projections are also posited. Her analysis is specifically designed to address the topic of the present paper. Yet, it differs from the present analysis in some significant ways. For one, she analyzes both questions and imperatives in terms of verb movement which has the consequence of generating traces which are subject to the inviolable ECP. In her analysis, clitics are X⁰s, hence they block antecedent-government of the t in I by its coindexed antecedent V in C under Related Minimality (Rizzi 1990). Her solution is to apply ‘merging’, an operation by which adjacent functional X⁰ categories into one X⁰. Clitics are generated adjoined to IP, which can meet the conditions for merging only if IPs are assumed to be specless. Several of these moves are theoretically costly: a) Adjunction of X⁰ to IP

violates the Structure Preservation Hypothesis. (b) The specless IP structure violates standard X' Theory. (c) Merging in questions is a case of lowering. (d) The clitic trace left behind by merging in imperative structures must be assumed to be invisible for antecedent government. To derive the fact that clitic pronouns cannot intervene between the clitic auxiliary and the lexical verb, Dobrovie-Sorin proposes that Romanian auxiliary structures are structurally distinct from their counterparts in other Romance languages. Instead of heading an AuxP projection dominating VP, they are assumed to be adjoined to a CP whose head is occupied by the preposed V-I. Following V-I to C movement, the clitic pronoun ends up in post-verbal position, which can be observed for *o* 'her' in the presence of an auxiliary. She derives the preverbal position via a local rule of clitic climbing characterized as a morpho-phonological process. It is rather clear that the theoretically undesirable moves she makes are tied to a framework of inviolable constraints and to the cumbersome syntacticization of clitics and morphology. As noted above, she, in fact, violates a number of principles of the theory she assumes. With respect to the important issue of cross-linguistic variation, she explicitly rejects Rivero's view that languages may differ in terms of their functional projections. What she ends up with -- a constituent structure truly idiosyncratic to Romanian -- does not seem to lead to a more constrained typology: if Romanian can be idiosyncratic in a particular way, why can't another language be idiosyncratic in some other way?

5. Conclusion

In conclusion, it is useful to step back from particular details of the optimization process and highlight the main aspects of the proposed theory of clitics. It is grounded in the characteristic clustering property of clitics. It builds on earlier claims that clitics belong to the morphology rather than to the syntax (Klavans 1985; Anderson 1992). Like lexical affixes, clitics instantiate functional features and they are subject to alignment constraints. The only significant difference between lexical affixes and clitics is the domain at the edge of which a particular feature must be realized. If the domain is the word, the feature is realized as a lexical affix; if the domain is clausal, the feature is realized as a phrasal affix or clitic.

The main departure from the earlier work lies in the claim that alignment constraints are violable, a claim independently made in Anderson (1996). Different alignment constraints regulating the realization of distinct

features compete for the left edge of the clause; hence they must be violable. Which one prevails depends on two factors: the input to optimization which contains the features themselves and thus determines which constraints are applicable in a particular context, as well as the ranking of the alignment constraints themselves. The latter constitutes a partial grammar of a given language. Partial rankings for Romanian, Macedonian, Bulgarian, and Italian are proposed. They exemplify the OT theory of cross-linguistic variation, typology by re-ranking.

From the present perspective, the Romanian puzzle pertaining to its clitic elements, as well as some of its cross-linguistic extensions, can be solved in a comparatively simple fashion. Consider each part of the puzzle in turn.

(1) Why doesn't a relatively large class of Romanian auxiliaries allow SA inversion in questions? As is well-known, SA inversion is a syntactic operation whereby a verbal head moves to an empty head (C) position. The answer is that clitic auxiliaries are not heads, hence they do not undergo SA inversion. Instead, the lexical verb itself moves to C with the result that the subject appears after the lexical verb rather than the auxiliary.

(2) The standard view of syntax requires a landing site for all verbal elements, including the clitic auxiliary. If the lexical verb is in C, as revealed by the position of overt subjects, where is the clitic auxiliary? To solve the problem, Dobrovie-Sorin (1994) posits a complicated constituent structure. In contrast, the issue does not even arise under the present theory.

(3) Why does clitic placement vary in questions and positive imperatives? The answer is two-fold. One part involves the issue of verb movement: questions involve movement of V to C to satisfy a high-ranked structural constraint, OBHD; imperatives do not involve movement. The other part of the answer lies with constraint ranking. All morphological features are subject to EDGEMOST(F), including features like [accusative] and [T]. Under the ranking EDGEMOST(ACC) >> EDGEMOST(T), clitic pronouns precede the finite verbal element. Encliticization in positive imperatives result from a conjoined constraint EDGEMOST(IMP)&EDGEMOST(T) outranking EDGEMOST(ACC).

(4) Why do negative imperatives exhibit procliticization rather than encliticization on the one hand and infinitive rather than finite morphology on the other? Clitic pronouns are preverbal in negative imperatives because of the ranking of alignment constraints: EDGEMOST(ACC) >> EDGEMOST(IMP). Infinitive morphology is interpreted as a failure to parse [T]. In negative imperatives [T] is unparsed because EDGEMOST(IMP)&EDGEMOST(T) is undominated: EDGEMOST(IMP)&EDGEMOST(T) >> PARSE(T). Violating

PARSE(T) renders the conjoined constraint vacuous. Thus the morphology is tied to the relative ranking of PARSE(T) while the placement of clitics is tied to the relative ranking of EDGEMOST(F). Contra Zanuttini (1997), the two features are independent from one another. This is a desirable result because, cross-linguistically, four types of negative imperatives are attested: infinitive morphology with procliticization (Romanian), infinitive with encliticization (Italian, Spanish), finite morphology with procliticization (Bulgarian*, Albanian), and finite morphology with encliticization (Slovak*, Czech*, Serbo-Croatian*, and Macedonian). Starred are so-called Wackernagel languages (analyzed here as cases where NONINITIAL(F) >> EDGEMOST(F)). The sample is quite small and I suspect that second-position clitic languages with infinitive imperative morphology also exist. If this turns out to be true, then there is no correlation between finite morphology, clitic placement in negative imperatives and Wackernagel effects, as predicted by the current analysis, in which they are respectively governed by the relative ranking of three independent constraint families: PARSE(F), EDGEMOST(F), AND NONINITIAL(F).

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