
Postlexical Cliticization vs. Affixation: Coordination Criteria

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1. Introduction: PLCs vs affixes

This paper proposes two criteria, both based on coordination, for distinguishing postlexical clitics (PLCs) from affixes.* These criteria are defended on theoretical and empirical grounds with examples from French, Modern Greek, Rumanian and English.

I will be assuming a strict version of the lexicalist hypothesis, according to which all affixes are lexically attached to their stems. Thus, the principle characteristic of affixes is that they are intimately integrated into the lexical phonology and morphology of the language. PLCs, on the other hand, are syntactic formatives (words) lacking appropriate prosodic properties to stand as autonomous phonological words. They are consequently subject to postlexical prosodic attachment to a neighboring word. This view of cliticization is the one defended by e.g. Selkirk 1984 and Anderson 1992. More specifically, Selkirk 1984 (pp.336 ff.) considers that the weak form properties of monosyllabic function words result from her Principle of the Categorial Invisibility of Function Words (PCI). This principle causes function words not to be treated like ‘real words’ by the grid construction principles of the syntax-phonology mapping, and accounts for their typical clitic-like properties in prosodic terms, without recourse to any syntactic rules of cliticization.1 Anderson 1992, defends a similar position, except that he considers such items to be inherently prosodically deficient, and thus not ‘derived’ from their possible non-weak variants. This is the position that I will adopt here.

2. Criteria for distinguishing PLCs and affixes

From these definitions, we immediately derive the central distinction between affixes and PLCs: any evidence showing that an item participates in the lexical phonology and morphology argues that that item is an affix, rather than a PLC. Given the general principles of lexicalist approaches to phonology and morphology (e.g. Kiparsky 1982), such evidence can be obtained from properties

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1Note that Selkirk 1984 assumes that certain special types of cliticization phenomena do require syntactic cliticization (e.g. for to contraction in wanna and not contraction in examples like don’t, cf. p.341). However it is clear that the cases under investigation here do not justify such special treatment in the spirit of her framework.
of the following types: (a) the applicability of lexical phonological rules between the item and its host;\(^2\) (b) lexical exceptions among hosts as to whether they can combine with the item; (c) suppletive forms for the unit formed by the item and the host; (d) idiosyncratic allomorphic variation in the unit formed by the item and its host; (e) processual (rather than affixal) realization of morphological marking; (f) possibility for the unit formed by the item and its host to undergo further lexical morphology, i.e. affixes that can be argued to be lexically attached can be affixed outside of the item under investigation.\(^3\) The fact that all of these criteria crucially rely on phonological and morphological properties is to be expected, given that the definitions proposed for affixation and postlexical cliticization are stated strictly in those terms.

These phonologically and morphologically oriented criteria are very useful. However, it should be noted that they are formulated in such a way that they can only provide arguments in favor of lexically attached affixal status and not against it. This is crucially due to the fact that inflectional systems can be regular. So, if none of the tests give results, no argument is obtained against affixal status: one could simply be faced with a very regular inflectional system. It is therefore impossible to derive any positive evidence for PLC status from these criteria. This limitation of these criteria makes it necessary to try to establish further criteria based on other types of evidence, which should allow more direct argumentation in favor of PLC status. Essentially, two such criteria have been proposed in the literature.

(1) Clitics exhibit a low degree of selection with respect to their hosts while affixes exhibit a high degree of selection with respect to their stems.
(2) Syntactic rules can affect words, but cannot affect clitic groups.

Both of these criteria test syntactic properties, rather than phonological and morphological ones. Criterion (1), also known as the 'promiscuous attachment criterion' is Zwicky and Pullum 1983's Criterion A. It is also adopted by Klavans 1982. Criterion (2) is Zwicky and Pullum's Criterion E. In the rest of this section, I will first argue that Criterion (1) is based on erroneous presuppositions and cannot be maintained. I will then discuss certain limitations in the applicability of criterion (2), and turn to the coordination criteria, which are a subcase of (2) and which are the central topic of this paper.

\(^2\)When I want to discuss an item without prejudging as to its affix or PLC status, I will use the term 'host' as neutral between 'stem' and 'host'.
\(^3\)Most of these criteria have been proposed in some form or other in previous work. In the system of Zwicky and Pullum 1983, for instance, (b) corresponds to criterion B; (d) to criterion C; (f) to criterion F. Klavans 1983 proposes some of these criteria, explicitly relating them to assumptions of level-ordered phonology, namely (a) and (f). On (e), see Zwicky 1987 and Miller 1992b. In fact, by its very nature, (e) does not test for affixal status. It simply states the fact that, given our assumptions as to the prosodic nature of postlexical cliticization, only lexical inflection can have a processual realization.
\(^4\)Note however that Klavans 1983 allows for clitics which exhibit a high degree of selection with respect to their hosts, thereby reducing the applicability of the criterion so that it can only give evidence in favor of clitic status.
The problem with criterion (1) is that it has been shown to give conflicting results, in a number of cases, with respect to the phonological and morphological criteria discussed above (cf. Poser 1985, Zwicky 1987, Anderson 1992, Miller 1992a, b, Miller and Halpern 1992, Halpern and Miller in prep.). These studies have shown that there are items which have a distribution that can only be stated in phrasal terms, but which are classified as affixes rather than PLCs by the phonological and morphological criteria. If one accepts the definitions proposed for affixes and PLCs in section 1, as these authors do explicitly or implicitly, then one is forced to accept the results of the phonologically and morphologically oriented criteria and to reject the validity of criterion (1). This is a crucial result, because it forces us to reevaluate the status of numerous cases where criterion (1) unambiguously points toward PLC status and which were often thought to be safely classified as instances of PLC. A typical example of this type is the case of the English possessive marker 's (cf. Miller and Halpern 1992, Halpern and Miller in prep.). Because of its NP final distribution, this item has classically been considered to be a separate syntactic formative undergoing cliticization to the last item in the preceding NP, as shown in tree 2 below for the possessive NP in (4). However, Zwicky 1987 provides important evidence showing that 's must be lexic ally attached and thus an affix. Indeed, the English possessive marker exhibits a haploology phenomenon with words ending in Z on the condition that the Z ending is a morphological mark (e.g., the plural marker or the 3rd person singular marker as in (3b) and (3d) below respectively), and not part of the stem (as in (3a) and (3c)). Note also that the presence of plural marking not realized by a Z (as in (3c)) does not lead to haploology.5

(3)  
  a. the goose's egg  
     */s/, */stz/  
  b. the hens' eggs  
     /z/, */zz/  
  c. the geese's eggs  
     */s/, */stz/  
  d. the hen that sings' eggs  
     /z/, */zz/

If one accepts the central tenets of the lexicalist hypothesis, these haploology data give us crucial evidence that the possessive marker must be lexically attached. Indeed, if it were attached by postlexical cliticization (or syntactic movement), accounting for these data would entail a violation of the principle according to which the morphological structure of a word should not be visible for syntactic or postlexical rules or conditions (cf. e.g. the Principle of Morphology Free Syntax of Zwicky 1992, p. 354).

Given the conclusion that 's is lexically attached, the structure of (4) must be as in tree 1, rather than as in tree 2, where POSS is a separate syntactic formative. The technical details of how to obtain lexically realized morphological marking on the last item of the phrase (specifically, the principles controlling the path of PM features in the tree) will be discussed in section 5 below.

5Zwicky 1987 uses the notation 'Z' to note the different allomorphs [s], [z] and [iz] of the plural, the 3rd pers.sg., and the possessive.
(4) The boy with blond hair's talk was good.

Numerous cases of this type have been discussed in recent studies. What they have in common is that lexically realized morphological marking for a feature of a whole phrase is realized on a non-Head item of the phrase. The choice of that item is made in terms of the linear ordering of the items in the phrase, more specifically the first or the last (note however that in some cases, the relevant notion is not the first or last word, but rather determined in terms of constituency; cf. Halpern 1992 for further discussion). These data have thus made it clear that criterion (1) must be abandoned.

Let us now turn to criterion (2). It exploits the fact that PLCs are separate words from their hosts at the syntactic level. A caveat must be added to this criterion. Indeed, it is only in the case where the clitic and the host do not form a constituent in the syntax that criterion (2) is applicable; otherwise it is expected that any rule which can affect a constituent of the type formed by the clitic and host will be able to apply to it. Thus, to Ann can be topicalized in (5), with to realized in its weak form as a PLC.

(5) To Ann, Mary gave an apple.

3. The coordination criteria

Let me now turn to the two criteria which are the central point of this paper.

(6) If an item must be repeated on each conjunct in a coordinate structure, then it must be an affix and cannot be a PLC.

(7) If an item must fail to be repeated on each conjunct in a coordinate structure, then it must be a PLC and cannot be an affix.

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It is clear that there is one further condition which must be met for the results of criterion (6) to be valid. Namely, it must be shown that the impossibility of N' coordination in this particular case is not a simple instance of a more general prohibition on N' coordination in French. That this is not the case can be seen by examining examples with full word specifiers like the following.

(9)  
   a. Chaque homme ou femme doit accompagner un enfant au moins.  
      *Every man or woman must accompany at least one child*  
   b. Si je rencontre quelque homme ou femme,....  
      *If I meet some man or woman, ...*  
   c. Douze filles et garçons sont venus.  
      *Twelve girls and boys came.*

Thus, if tree 3 represented the correct structure for French NPs with determiners, it would be necessary to stipulate some specific principle forbidding wide scope for determiners over a coordination of N's in order to prevent the generation of unacceptable strings such as (8a,b). On the other hand, it will be shown below in section 5 how the obligatory repetition of determiners can be accounted for simply if they are analyzed as phrasal affixes. Furthermore, Miller 1992a presents morphologically and phonologically oriented evidence in favor of the lexically attached status of these items.

Thus, crucially, criterion (6) is only valid if there are no independent reasons that forbid coordination of the type of constituent over which the item under investigation would have wide scope.

### 3.2. English reduced auxiliaries

Let us now consider a case which illustrates criterion (7), viz. the English reduced auxiliaries. Kaisse 1985 and Zwicky and Pullum 1983 both argue that these items are postlexical clitics. Criterion (7) supports their conclusions. As shown in (10), a reduced auxiliary may have wide scope over a coordination of hosts, but it may not be repeated on each host.

(10)  
   a. Mary and John'll be there soon.  
   b. *Mary'll and John'll be there soon.

Consider the type of structure assumed for such sentences (without coordination).
Both of these criteria follow immediately from the definitions of affixes and PLCs and from any theory which allows for constituent coordination, e.g. the Generalized Phrase Structure Grammar treatment developed in Gazdar 1981, Gazdar et al. 1985 (henceforth GKPS) and Sag et al. 1985. The following subsections provide a number of illustrations of the applicability of these criteria.

3.1. French determiners

As an example of the applicability of criterion (6), consider the case of French determiners (cf. Miller 1992a for further discussion).7

(8) a. *le père et fils the father and son (OK: le père et le fils)
   b. *le père ou fils the father or son (OK: le père ou le fils)

The ungrammaticality of (8b), with ‘or’ coordination shows that the status of (8a) cannot be attributed to a number agreement problem on the determiner (note also that (8a) remains equally bad if les is substituted for le). Classical assumptions about the French NP assign it a syntactic structure like that in tree 3. The weak form status of the determiner is classically accounted for at the level of the syntax-prosody mapping, e.g. by Selkirk 1984’s PCI. However, the syntactic structure in tree 3 predicts that it should be possible to coordinate the N constituent, as in tree 4, thereby incorrectly generating (8a). Under the classical assumptions, the wide scope determiner should simply be postlexically cliticized to the following N. Indeed, this gives the correct results for the corresponding English NPs where wide scope for a weak form determiner is perfectly acceptable. Clearly, one cannot expect postlexical cliticization to apply in an Across-The-Board (ATB) fashion to a structure like tree 4. First, such ATB application would be incompatible with the prosodic nature of postlexical cliticization, which inherently can only be sensitive to prosodic and phonological properties of the sentence. Second, even if one accepted the idea of ATB postlexical cliticization, this would lead to the incorrect prediction that postlexically cliticized weak determiners in English must be repeated in coordinate structures. Thus, the obligatory repetition of determiners is incompatible with PLC status.

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7A few caveats are in order here as to the possibilities of wide scope over a coordination for determiners. First, it is possible to have wide scope if the conjuncts are coreferent. This is illustrated in examples like the following (cf. e.g. Grevisse 1980, §668).

(i) mon collègue et ami my friend and colleague (not ambiguous)
(ii) l’onagre ou âne sauvage the onagre, also known as the wild donkey, ...

Second, with appropriate lexical choices for the nouns, wide scope can be more acceptable in the plural.

(iii) les officiers, sous-officiers et soldats the officers, non-commissioned officers and soldiers

Note however that this possibility is much more restricted than in English and that it is associated with higher register. I return to the status of these examples below at the beginning of section 5. See Miller 1992a pp.159ff. and pp. 284ff. for further discussion.
In this structure, the host and the postlexical clitic do not form a constituent. Consequently, constituent coordination of this sequence is impossible. Note however that non-constituent coordination, with Right Node Raising of the lower VP, is possible in such structures, as evidenced by the grammaticality of (11), where bold face is used to indicate contrastive stress.

(11) John will and Mary may be there soon.

The reason for which a structure similar to that of (11), but with two occurrences of the reduced auxiliary 'll, cannot give rise to (10b) should be attributed to pragmatic constraints on the felicitous usage of such RNR structures. Namely, they require that the repeated auxiliary be a focus of contrast. But this is impossible for reduced forms like 'll, hence the unacceptability of (10b).

3.3. Rumanian definite articles

The Rumanian definite article is realized as a suffix on the first noun or adjective in an NP (-ul or -le in the masc. sg.; -i in the masc. pl.).

(12) a. prietenul friend.the
b. bunul prieten vs. *bun prietenul good.the.friend vs. *good friend.the
c. *foartele bun prieten vs. foarte bunul prieten vs. *foarte bun prietenul very.the good friend vs. very good.the friend vs. very good friend.the

(12b) and (12c) show that the definite suffix cannot be the result of simple postlexical cliticization via stray adunction of a determiner in specifier of NP position. Indeed, given the classical structure assumed for the NP, with the determiner having scope over the N', the linear ordering in the syntax must be different from that reflected in the phonology.

8I would like to thank Dorian Popescu and Donka Farkas for discussion of the Rumanian data.

9Note however that this does not preclude a cliticization analysis under the hypotheses of, e.g., Autolexical Syntax (cf. Sadock 1991). Indeed, Sadock (p.61ff.) allows cliticization to violate his 'Linearity Constraint', thus permitting the clitic to appear in a different order in morphological structure than in syntactic structure. However, examples of the type (12c), are somewhat problematic for Sadock 1991's theory if the definite article is analyzed as an enclitic in Rumanian. Indeed, the article violates the Strong Construcational Integrity Constraint (CIC) (p.103). Given the way Sadock uses the interaction of the Strong CIC and the Linearity Constraint to account for the distribution of the suffixal definite article in Macedonian (p.120), he should predict that (12c) is ungrammatical. Indeed, the distribution of the Macedonian definite article is largely similar to that
Criterion (6), allows us to confirm affixal status in this case, since the definite suffix in Romanian must be repeated on each conjunct in a coordinate structure as shown in (13a,b). Examples (13c,d), where both nouns are in the plural, shows that this constraint is not related to a number agreement problem between the determiner and the nouns.

(13)  
  a.  *prietenul și coleg  friend.the and colleague  
  b.  prietenul și colegul  friend.the and colleague.the  
  c.  *prietenii și colegii  friends.the and colleagues  
  d.  prietenii și colegii  friends.the and colleagues.the

Finally, it should be noted that N' coordination is possible in Romanian with typical full word specifiers, as shown in examples (14), confirming that the impossibility of wide scope for the definite suffix is not due to a more general prohibition of N' coordination.

(14)  
  a.  fiecare coleg și prieten  each colleague and friend  
  b.  acesti colegi și prieteni  these colleagues and friends  
  c.  multi colegi și prieteni  many colleagues and friends

3.4. Modern Greek definite articles

Definite articles in Modern Greek (MGr) can also be argued to be cases of phrasal affixes rather than postlexical clitics, on the basis of criterion (6).\(^{10}\) Indeed, repetition of the definite article on each conjunct in a coordination of NPs is largely obligatory.\(^{11}\)

(15)  
  a.  *Efere to vivlio ke periodiko.  \(\text{OK: to vivlio ke to periodiko}\)  
  \(S/he.brought\ the\ book\ and\ magazine.\)  
  b.  *Efere ta vivlia ke periodika.  \(\text{OK: ta vivlia ke ta periodika}\)  
  \(S/he.brought\ the\ books\ and\ magazines.\)  
  c.  *Xriazome to stilo i molivi.  \(\text{OK: to stilo i to molivi}\)  
  \(I.\text{need the pen or pencil.}\)

Example (15b) with two plural conjuncts and (15c) with 'or' coordination of singular conjuncts show that the status of (15a) is not simply due to an agreement conflict. Furthermore, examples (16) show that obligatory repetition is not due to a general prohibition of N' coordination after specifiers.

(16)  
  a.  Efere merika / kambosa vivlia ke periodika.  \(S/he.brought\ some / several\ books\ and\ magazines.\)
b. Xriazome ena stilo i molivi.
   I need a pen or pencil.\textsuperscript{12}

Finally, it should be noted that there is some phonological evidence that definite articles are lexically attached in MGr. Indeed, there is a lexical rule of \[n\] deletion before strident consonants and liquids, illustrated in (17a,b). This rule exhibits lexical exceptions with the prefix \(en\)-, as shown in (17c,d). (These examples are taken from Joseph and Philippaki-Warburton 1987, p.248).

\begin{itemize}
  \item \(\text{a. } /\text{sin-sorevo}/ \rightarrow [\text{sisorevo}]\) \quad I gather
  \item \(\text{b. } /\text{sin-lipume}/ \rightarrow [\text{silipume}]\) \quad I commiserate
  \item \(\text{c. } /\text{en-somatono}/ \rightarrow [\text{ensomatono}]\) \quad I incorporate
  \item \(\text{d. } /\text{en-zimo}/ \rightarrow [\text{enzimo}]\) \quad enzyme
\end{itemize}

This rule also applies, as an optional rule, at the boundaries between both pronominal object clitics and definite articles and their hosts, as shown in (18a,b). In this case also, it has lexical exceptions, namely it cannot apply between the object clitic pronoun /ton/ 'him' (ACC) and its host, as shown in (18c). It is thus arguable that this rule cannot be a strict postlexical prosodic domain rule.\textsuperscript{13}

\begin{itemize}
  \item \(\text{a. } /\text{ton sinadelfo}/ \rightarrow [\text{tosinadelfo}] \text{ or } [\text{tonsinadelfo}]\) \quad the colleague (ACC)
  \item \(\text{b. } /\text{in simbatho}/ \rightarrow [\text{isimbatho}] \text{ or } [\text{tinsimbatho}]\) \quad I like her
  \item \(\text{c. } /\text{ton simbatho}/ \rightarrow [\text{tonsimbatho}] \text{ (*}[\text{tosimbatho}]\) \quad I like him.
\end{itemize}

3.5. French object clitic

As a final example of the applicability of criterion (6), consider the case of French object clitic pronouns. These have been the subject of extensive discussion as to their status as affixes or clitics. The most recent serious defense of postlexical clitic status that I am aware of is Labelle 1985. See Miller 1992a pp.173ff. for a detailed refutation of her arguments, and an extensive defense of the affixal status of French object clitics. The two following points from that discussion will be of interest to us here. First, contrary to Labelle's claims, object clitics do not attach to the VP phrasal domain in Modern French, but to the verbal Head of the VP. Labelle claims that VPs in French are always V-initial, making VP-attachment rather than

\textsuperscript{12}The choice of 'or' coordination in examples (15c) and (16b) is important. Indeed, replacing \(i\) by \(ke\) in (16b) leads to unacceptability, presumably because of a conflict between the singular number of the determiner and the semantic plurality of the referent set. However, the fact that (15c) is unacceptable even with 'or' coordination indicates that the problem goes beyond this in the case of the definite article. Thanks to Cleo Condoravdi for bringing up the problems raised by wide scope for \(ena\).

\textsuperscript{13}It should be noted here that this phonological argument is not as strong as one might wish, as there is apparently considerable dialect variation on these data (cf. e.g. Nespor and Vogel 1986, pp. 114 and 157, for an entirely different set of data). However, at least some speakers of Modern Athenian Greek exhibit the pattern of data presented here and reported in Joseph and Philippaki-Warburton 1987.
V-attachment a possible interpretation of the positioning of object clitics. However, it is not true that all VPs in French are V-initial, and when they are not, the data clearly demonstrate attachment to the verbal head rather than VP-attachment.\footnote{In 17th century French, however, VP initial attachment was possible. Note that whether or not the infinitival VPs in these examples are considered to be bare VP complements or part of an IP with an empty subject is irrelevant to the question at hand.}

\begin{itemize}
\item[(19)]
\begin{enumerate}
\item Elle semble [\text{VP tout lui donner}]. \hspace{1cm} (*\text{lui tout donner})
\textit{She seems to give everything to her.}
\item Elle veut [\text{VP ne jamais la revoir}]. \hspace{1cm} (*\text{ne la jamais revoir})
\textit{She wants to never see her again.}
\item Pour [\text{VP mieux la voir}]. \hspace{1cm} (*\text{la mieux voir})
\textit{To see her better}
\end{enumerate}
\end{itemize}

Second, as is well known, French object clitics must be repeated on each conjunct in a conjunction of verbs. Thus, criterion (6) argues for their affixal status, corroborating the numerous other types of evidence in favor of this conclusion.\footnote{Labelle invokes the marginal acceptability of examples like (i) to argue against this conclusion: (i) \textit{Je te le dis et redis depuis une heure} (Labelle 1985, p.87, her (4)).}

\begin{itemize}
\item[(20)]
\begin{enumerate}
\item *Marie la voit et écoute. \hspace{1cm} \textit{Marie sees and listens-to her.}
\item Marie la voit et l’écoute. \hspace{1cm} \textit{Marie sees her and listens-to her.}
\end{enumerate}
\end{itemize}

4. The Edge Feature Principle

In this section, I will briefly present the syntactic mechanism which I assume to account for the realization of lexically attached morphological marking on non-head items of a phrase, namely the Edge Feature Principle. The analysis developed here will allow us to shed some light on the status of cases where repetition in a coordinate structure is optional, showing how this can be compatible with lexically realized phrasal inflection status (cf. section 5). Elaborating on proposals by Nevis 1985, Poser 1985, Zwicky 1987, Lapointe 1990, I will propose a solution based on feature percolation in the GKPS style, as illustrated in tree 1 above. The problem can be divided into two parts. First, it is necessary to ensure that a path is established between the phrasal node bearing the relevant feature and some terminal node within the phrase, which will be inflected for the corresponding morphological mark. This is the job of the Edge Feature Principle (EFP). Second, we must be able to specify that the node in question can be either the first or the last. This will be taken care of by LP rules.

The EFP can be informally stated as in (21) (a technically precise definition is given in the appendix; cf. Miller 1992a p.122ff. for more extensive discussion).

In the definition, the feature \text{T} is a TRIGGERING feature. The feature \text{E} is an EDGE feature, or MORPHOLOGICAL MARKING feature, which will cause the lexical node
on which it appears to be inflected, ensuring the exponence of the triggering feature on that node.

(21) Definition. Edge Feature Principle
(i) If a node has T then one of its daughters has E;
(ii) if a node has E, then its mother has T or E;
(iii) if a node has E, then one of its daughters has E.

By clause (i) of the EFP, the presence of a triggering feature T on a node forces the instantiation of the corresponding EDGE feature E on one of its daughters. For clause (i) to be able to do its job, the grammar must provide a list of pairs defining which EDGE feature corresponds to each triggering feature. Clause (ii) of the EFP governs the 'upward percolation' of EDGE features. It requires that if an EDGE feature appears on a daughter in a local tree, then it must appear on the mother. There is one case where this requirement is relaxed, namely if the mother category bears a triggering syntactic feature corresponding to the EDGE feature under discussion. In that case, the EFP is satisfied whether upward percolation stops or whether it continues through the node in question (this possibility is the central point on which the EFP and the Foot Feature Principle (FFP) of GKPS differ; it plays a crucial role in accounting for the haplology phenomena discussed in Miller 1992b). Finally, clause (iii) governs the 'downward percolation' of EDGE features. It requires that if an EDGE feature appears on the mother node in a local tree, it must also appear on one of the daughters. This clause prevents an EDGE feature from 'getting lost' on the way down to a terminal node.

The functioning of the EFP can be illustrated with respect to tree 1. POSS is the triggering feature. It is the feature which is syntactically and semantically relevant (it is semantically potent in the sense of GKPS, p. 223ff.). PM (POSS Marking) is the EDGE feature which is triggered by POSS. The presence of PM on the lexical node dominating hair's is responsible for it appearing inflected with 's.

In order to account for the fact that PM must follow a rightmost path to a terminal node, it is assigned to the class of LAST features, which are subject to the LP rule (22a).

(22) a. X < LAST
    b. FIRST < X

The similar LP rule (22b) for FIRST features ensures that the exponence of a triggering feature which triggers a FIRST feature will be realized on the first item of the phrase. This will account for the cases of determiners in French and definite articles in Greek.16 Let me briefly provide an illustration for the former case (cf. Miller 1992a, chapter 6 for an extensive discussion).17

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16 As shown by the grammaticality patterns of (12c), the situation in Rumanian requires a more complex account than the one provided here. See Halpern 1992 and Svenonius 1992 for proposals in frameworks similar to that presented here.

17 In what follows, contrary to French orthographic norm, I will hyphenate determiners to their stem to indicate their lexically attached status under the present analysis.
Tree 6

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NP DET[le]
  A 1-DET[le]
  |      N
  |      le-grand
  |      garçon
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I assume that DET is a category-valued feature which takes as value a feature matrix characterizing the various determiners in terms of the features DEF(inite), POS(sessive), DEM(onstrative) and C(oun)T (in the example, le abbreviates the matrix [+DEF]). DET is a triggering feature for the EFP, which triggers the FIRST feature 1-DET (the prefix ‘1-’ being mnemonic for FIRST status). Clause (i) of the EFP thus forces one of the daughters of NP in tree 6 to bear the corresponding morphological marking feature\(^\text{18}\) and the LP statement (22b) forces this to be the leftmost daughter, A. The presence of 1-DET[le] on the lexical node A requires that the lexical item inserted beneath it be inflected for this feature specification. The morphology is assumed to produce appropriate items of this sort, such as le-grand, by inflectional morphological rules.

The advantages of separating triggering features from morphological marking EDGE features are discussed in Miller 1992a,b. For our present purposes, I will limit myself to observing that it allows a distinction between the status of features which can be semantically potent in the sense of GKPS (such as POSS and DET), and features which are responsible for morphological exponence, which are never semantically potent (such as PM and 1-DET). Furthermore, this distinction will be crucial to the account of obligatory and optional repetition of phrasal affixes in coordinate structures discussed in the next section.

5. Obligatory vs. optional repetition in coordinate structures

One of the major limitations of criteria (6) and (7) is that they make no predictions in cases where repetition on each conjunct is possible, but not obligatory. In this section, the status of optional repetition is analyzed and it is shown why neither (6) nor (7) can be made stronger by changing the conditionals into biconditionals.

Let us first consider the case of affixes. Having discussed the Edge Feature Principle analysis of phrasal affixation, it is possible to show how it provides an immediate account for both the possibilities of obligatory and optional repetition of phrasal affixes in coordinate structures. Basically the distinction hinges on whether the triggering feature is a Head feature or not. If it is, then the triggering feature must appear on each conjunct and on the mother node. This will lead to triggering of the corresponding morphological marking feature on each conjunct and thus to

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\(^{18}\)Note that I am assuming that the first clause of the EFP transmits the value of the triggering feature to the triggered feature ([le] in the case of tree 6). This is explicit in the complete version of the EFP given in the appendix.
repetition of the affix on each. This is illustrated in tree 7 for the case of the obligatory repetition of determiners in French.

Tree 7

```
NP DET[le]
   NP DET[le] 1-DET[le] CONJ NP DET[le]
      N 1-DET[le]          N 1-DET[le]
      le-père           et le-fils
```

If on the other hand, the triggering feature is not a Head feature, then it need not be repeated on each conjunct (though it may). The non-repetition possibility is illustrated for the English possessive marker in tree 8.

Tree 8

```
NP POSS
   NP L-POSS N'
      NP CONJ NP L-POSS N'
         DET N' and DET N' L-POSS books
            the N the N L-POSS
               boy girl's
```

On the other hand, repetition of the phrasal affix 's will occur if the POSS feature also appears on the conjunct sisters, a situation which is possible, but not obligatory if POSS is not a Head feature.¹⁹

Let me now return to the cases mentioned above in fn. 7 where the determiners in French can exceptionally have wide scope over a coordination of NPs. I propose that this possibility is a remnant of a preceding stage of the French language where the DET feature was not a HEAD feature. This older system can be accessed by contemporary French speakers and is associated with a higher register.

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¹⁹The reader may note that nothing in what is said here prevents a non-Head trigger from appearing on some but not all conjuncts. In cases where there are two conjuncts only as in tree 8, this cannot lead to a problem. However, in cases of more than two conjuncts, this would allow generating ungrammatical strings such as (i) (cf. Lapointe 1990, p.231, examples (28), (29)).

(i) *Mary's, John and Ann's books

See Miller 1992a, p. 130 for a solution to this problem based on semantic filtering in the style of Ladusaw 1986, taking advantage of the fact that the triggering features are semantically potent.
effect and with special constraints on semantic interpretation in some instances. Evidence for this position comes from the fact that non-repetition of the definite article in coordinate structures was common place in e.g. 17th century French (cf. Haase 1930 §144). Similar remarks can be made about the exceptional cases of wide scope for object clitics mentioned in fn. 15 since they too did not have to be repeated in coordinate structures in 17th century French (cf. Haase 1930 §147).

We are now in a position to provide an account for the correlation between affixation to the head and obligatory repetition of affixes in coordinate structures, both of which are clearly the unmarked cases. Indeed, if the morphological marking appears on the head, it must be driven by a HEAD feature. Consequently, it must be repeated on each conjunct. This accounts nicely for the fact that obligatory repetition and attachment to the Head of the VP rather than to the left edge (cf. (19), (20)) developed simultaneously in French. Furthermore, this analysis predicts that head attachment could not develop without concomitant obligatory repetition (though the opposite remains possible if the trigger is a HEAD feature but not the marking feature, as is the case for French determiners).

Finally, consider the breakdown of biconditionality for criterion (7), in the case of PLCs. The reason for which (7) cannot be strengthened to a biconditional is that it is possible for a postlexical clitic to form a syntactic constituent with its host. This is the case, for instance, of the preposition to in English, which forms a syntactic constituent with the following NP. In this case, coordination is possible both at the NP and at the PP level resulting respectively in (23a) and (23b), in which to appears in its reduced form.

\[
\begin{align*}
(23) & \quad \text{a. John spoke to Mary and Ann.} \\
& \quad \text{b. John spoke to Mary and to Ann.}
\end{align*}
\]

6. Conclusion

To sum up, this paper has provided two syntactic criteria, based on coordination, for distinguishing PLCs from affixes. It also provides an account for the breakdown in biconditionality in the case of optional repetition, showing under what conditions optional repetition is possible for phrasal affixes.

Appendix

Definition: Edge Feature Principle (EFP)
Let \( \Phi_r \) be the set of projections from \( r \), where \( r = C_0 \rightarrow C_1, \ldots, C_n \), and let \( g_k \) be a syntactic feature triggering the morphological marking EDGE feature \( f_k \).

Then, \( \phi \in \Phi_r \) meets the EFP on \( r \) if and only if for all pairs \((g_k, f_k)\):

(i) if \( [f_k, v] \in \phi(C_0) \) then \( \exists C_i, 1 \leq i \leq n, \) such that \( [f_k, v] \in (\phi(C_i)) \); and

(ii) \( \forall C_i, 1 \leq i \leq n, \) if \( [f_k, v] \in \phi(C_i) \) then \( [g_k, v] \in \phi(C_0) \) or \( [f_k, v] \in \phi(C_0) \); and

(iii) if \( [f_k, v] \in \phi(C_0) \), then \( \exists C_i, 1 \leq i \leq n, \) such that \( [f_k, v] \in \phi(C_i) \).
References


