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Clitic Clusters - A View from Post-syntactic Morphology

This paper discusses some interesting phenomena in clitic cluster formations with emphasis on Standard Spanish and Latin American dialects of Spanish which pose problems for a purely syntactic approach to clitic cluster formation.

There is a model which provides a principled account for these effects, namely Distributed Morphology (Halle&Marantz 1993, 1994). Section 2 provides a short introduction to this model and how it accounts for the relevant phenomena.

Furthermore this account will be taken over for further phenomena which have been previously accounted for in Syntax with additional syntactic assumptions (Lema&Rivero's (1989) Long-Head-Movement-Account for European Portuguese and Old Spanish "infix clitics"). Proposing a DM account for these effects allows assumptions about syntax to be simplified.

1. Properties of clitic clusters - problems for syntactic accounts

There are many phenomena in clitic cluster formation that have not so far found an account. The syntactic discussion is concerned with clitic positioning (movement), the difference between Wackernagel (second-position-) clitics and verbal clitics, triggers for clitic-movement, clitic clustering effects occurring in some languages but not in others, factors that allow clitic climbing and the like.

The unexplained problems include an analysis of opaque forms such as the Spanish Spurious *se* or the Italian *ci*. Apart from those effects, it has always been a problem how to account for the ordering of clitics in clusters and how to account for parametric variation with respect to this ordering. Furthermore, languages with clitic climbing show some (non-syntactic) blocking effects in the cluster which look for an explanation

So there seem to be already enough problems with the positioning of the clitics with respect to each other, but the positioning of the clitics with respect to inflectional morphemes makes the situation even more complicated. As Minkoff (1993) and Harris (1994) and Halle & Marantz (1994) have shown, languages like Carribean Spanish show very interesting phenomena in this positioning, where the clitic pronouns appear inside the verb itself, between the stem and some of its inflectional elements or between inflectional elements of that verb. To look for a syntactic account of those phenomena would put into question the assumption that words are islands and thus the whole autonomy of morphology.

In the following sections, I look in detail at these problems for a syntactic account.

1.1. Opaque forms

Opaque forms arise when the outputs of clitic combinations do not coincide with the output forms of those clitics in isolation. Two well-known examples are the 'spurious *se*' rule of Spanish (Perlmutter 1971) and the *ci-si*-effect in Italian.

1.1.1. Spurious *se* in Spanish

This phenomenon occurs in Spanish when a third person dative clitic appears in combination with a third person accusative clitic. (1a, b) show accusative and dative clitics in isolation, when they appear in combination as in (1c) the third person dative *le* appears as a *se*, which corresponds to the spell-out of a reflexive clitic.

(1) a. *El premio, **lo** dieron a Pedro ayer* (Bonet1995:632)
the prize 3acc gave(3pl) to Pedro yesterday

b. *A Pedro, **le** dieron el premio ayer*
to Pedro 3dat gave(3pl)the prize yesterday

c. *A Pedro, el premio, **se lo** dieron (*le lo dieron)*
to Pedro the prize se 3acc gave(3pl)
'they gave the prize to Pedro yesterday'

1.1.2. Italian si si → ci si

A similar effect occurs in Italian. When the impersonal *si* and the third person reflexive *si* appear in combination, then one of them gets spelled out as *ci*.

(2) a. *Lo **si** sveglia* (Bonet1995:609)
3rdacc impers. wake-up3rd
'one wakes him up'

b. ***Ci si** lava (*si si lava)*
'one washes oneself'

1.2. Order of clitics in the cluster

It is still a matter of discussion how fixed the order of clitics is in clitic-clustering-languages. Apart from this problem, it is still unclear how the different orderings in various languages can be explained by parametrization of syntactic head-adjunctions.

Languages with a fixed ordering in clitic clusters include French and Spanish. In those languages it is clear that various factors play a role: there is a fixed position for reflexives and negative heads, but otherwise person and Case features play different roles, suggesting a purely morphological, rather than a syntactic account (cf. Perlmutter 1971:57).

(3) a. Nom ne me/ nous/ te/vous/se IIIacc IIIdat y en
nom - Neg - I/II/Refl - IIIAcc - III Dat - Gen - Loc (French)

(b) no se te/os, me/nos le lo/la
Neg Refl II I IIIdat IIIacc (Spanish)

First and second person clitics, which do not show Case distinctions (dative or accusative) are placed before third person clitics. First and second person clitics are ordered according to person features, whereas third person clitics are ordered with respect to Case features. The variation between French and Spanish alone is significant, the order of first and second person clitics differ (I- II in contrast to II -I) and also the Case ordering of the third person clitics differ (acc-dat in contrast to dat- acc).

The maximal number of personal pronouns in the cluster seems to be three: Two dative pronouns can occur when one of them is either an inherent reflexive or an ethical dative (as in 4b,c):

(4) a. ***Se me lo** permitió*
se-imp me it allowed 3Sg

b. *Pedro* ***se me lo*** *ha quedado*
Pedro se-inh. me it has kept

c. ***Se me le*** *perdió el pasaporte al niño* (Perlmutter 1971:28)
se-imp me him lost3Sg the passport to the child
My child's passport got lost on me

If this ordering shall be explained in terms of head adjunction structures, just the comparison of two related languages shows that we have to count with massive variation that would complicate the triggering of the order of the adjunctions, if possible at all. The fact that individual feature values are involved suggests that the conditions are morphological, not syntactic.

1.3. Some blocking effects in cluster formation

It is well known that in some languages clitics can climb out of infinitival complements. (5) shows how climbing works in Spanish. The example involves two embedded infinitival complements with one clitic object associated with each infinitive verb. The clitics can move up independently of each other, all landing sites are possible apart from (5e) which results from crossing movements.

(5) a. *Querían hacer****me*** *firmar****lo***
wanted3Pl make-me sign-it
They wanted to make me sign it

b. *Querían hacer****melo*** *firmar*
c. ***Me*** *querían hacer****lo*** *firmar*
d. ***Me lo*** *querían hacer firmar*

e. ****Lo*** *querían hacer****me*** *firmar*

This process underlies a number of different constraints: first a purely lexical condition as to which matrix verbs allow climbing at all, and then a number of syntactic conditions: no crossing movements of clitics and no crossing of intervening heads (like negation (6)) and phrases like adverbs in (7).

(6) *a.* *quiero poder* ***no*** *seguir gritándo****lo***
want_{1pSg} can not continue shouting-it

b. *quiero poder* ***no*** *seguir****lo*** *gritando*
c. **quiero poder****lo*** ***no*** *seguir gritando*
d. ****lo*** *quiero poder* ***no*** *seguir gritando*

(7) a. *Intenté decírselo*
b. ***Se lo*** *intenté decir*

c. *Intenté* ***repetidamente/ en aquel momento*** *decír****selo***
Intend1pSgPast repeatedly/at this moment say-him-it
d. ****Se lo*** *intenté repetidamente/en aquel momento decir*

But there are additional blocking effects that are not conditioned by the above mentioned criteria. In (8.b,c) and (9.b,c) there is no syntactic effect that could block the

climbing, but the output forms are still ungrammatical. Obviously these data could be covered by morphological well-formedness conditions on the spell-out of the cluster combinations.

(8) a. ***Me** permitió **darle** el libro*
Me allowed3Sg give-him the book
'He allowed me to give him the book'
b. ****Le me** permitió dar el libro*
c. ****Me le** permitió dar el libro*

(9) a. ***Me** ordenó miraros*
Me ordered3Sg look-at-you2Pl
'He ordered me to look at you'
b. ****Me os** ordenó mirar*
c. ****Os me** ordenó mirar*

1.4. Clitics and inflectional morphology of their verbal hosts

1.4.1. Carribean Spanish - plural effects

Apart from the problems for a syntactic account of clitic positioning discussed in the preceding sections, some languages display an intricate interaction between clitic pronouns and the realization of inflection (or features of inflection).

As first noted by Minkoff (1993) and taken up by Halle & Marantz (1994), Carribean Spanish displays interesting properties with respect to the realization of plural markings of the verbal inflection as well as the realization of the plural marking of the clitic pronouns in a clitic cluster. The former phenomenon arises with imperatives inflected for 2nd person plural (the imperative is the only case where pronouns encliticize, rather than procliticize to a finite verb form).

This is illustrated in (10) and (11). The difference between Castilian (here called Normal Spanish (NSp)) and Carribean Spanish (CSp) following Minkoff lies in the fact that in CSp the plural verbal inflectional marking is realized not adjacent to the verb but after the clitic pronouns.

NSp

(10)a.	*d-e-n*	b.	*d-e-n-**me***	c.	*d-e-n-**me-lo***	(Minkoff 1993)
	give-IMP.2PL		give.IMP.2PL-me		give.IMP.2PL.me.it.	

CSp

(11)a.	*d-e-n*	b.	*d-e-**me**-n*	c.	*d-e-**me-lo**-n*
	give-IMP.2PL		give.IMP.me.2PL		give.IMP.me.it.2PL
	'Y'all give!		'Y'all give me!		'Y'all give me it!

A further difference manifests itself in preverbal clitic clusters containing a plural clitic. In CSp, the plural marking of one of the clitics is not realized on the pronoun to which it belongs but on the rightmost pronominal clitic.

(12) ***Nos lo** traerán* (NSp) (Minkoff 1993)
us it bring-fut3PL

(13) ***No los** (*nos lo) traerán* (CSp)
They will bring it to us

1.4.2. Similar phenomena in other languages

This is not a marginal or "exotic" property of some dialects of Spanish. One does not have to search for long to discover that similar phenomena can be found in a variety of languages.

Brandi and Cordin (1989:131) describe a similar phenomenon in Fiorentino Italian. This language has subject clitics that procliticize to the finite verb. There exist cases - namely third person plural - where the observed linear order is such that the subject clitic appears between the verb stem and the inflected verb ending.

(14) a. *Icché **gl'hanno** fatto?*
b. *Icché ha-**gli-no** fatto?*
What have-they-3Pl done
'What have they done?'

Kayne (1994:135) mentions examples from French, where the clitic *lui* gets positioned inside the verb *donnez* (the /z/ corresponds to the 2nd person plural inflection).

(15) *Donne lui - /z/ -en*
give him/her $_{Dat}$ of it
'Give him/her (some) of it'

KATAMBA (1993: 230) describes reflexive pronoun positioning in Luganda, where the reflexive pronoun prefix *-ee-* is placed between the tense prefix and the verb stem. This also seems to be a case where a clitic tucks in between the verb and its inflection, this time as a "prefixal" element.

(16) a. *Abakinjaagi ba-li-sala ennyama*
Butchers they-fut-cut meat
'The butchers will cut the meat'

b. *Abakinjaagi ba-li-**ee**-sala*
butchers they-fut-themselves-cut
'The butchers will cut themselves'

Another case has been described by Nevis & Joseph (1992) and Stolz (1989) for Lithuanian, where clitics are reported to be 'word-second', i.e. they are placed either after a prefix to the verb or after the inflected verb if the verb has no prefix. But there are cases in some Lithuanian dialects where the reflexive clitic appears after the verb stem and before the inflectional ending. In (17.a) *si* is positioned after the root *sùka*, but before the person marker *-m* (cf. Standard Lithuanian in (17.b)).

(17) a. *sùka-**si**-m* (Stolz 1989:18)
we spin

b. *sùka-me-**s***

Given that similar phenomena appear in a number of different languages, a general account of it should be looked for. The positioning of clitics inside verbs makes a syntactic account very difficult because this would mean abandoning the assumption that words are islands and thus the whole autonomy of morphology. Instead, it seems that there are better prospects in seeking an account of these phenomena in terms of morphological operations that apply to the output of syntax.

There is a model which provides the basis for a principled account for these effects, namely Distributed Morphology. Before we come to the analysis, I introduce the basic features of this model.

2. The Model of Distributed Morphology (Halle & Marantz)

According to Halle&Marantz (1994:273ff) there are three properties of Vocabulary Items that distinguish DM from other approaches.

i. Late Insertion

The terminal nodes in hierarchical syntactic structures are complexes of semantic and syntactic features but lack all phonological features. Phonological features are supplied --after syntax-- by insertion of Vocabulary items into terminal nodes. Vocabulary insertion adds phonological features to terminal nodes, but does not add semantic/syntactic features.

ii. Underspecification

Insertion is only possible if the identifying features of the Vocabulary Item are a subset of the features at the terminal node. The item need not match every feature specified in the node. Vocabulary Items are usually underspecified with respect to the features of the nodes into which they are inserted. If several Vocabulary Items are available for insertion into a given terminal node, the most highly specified item whose identifying features are a subset of the features of the terminal node wins the competition

iii. Syntactic Hierarchical Structure All the Way Down...

The terminal nodes into which Vocabulary Items are inserted are organized into hierarchical structures determined by the principles and operations of the syntax. Hierarchical structures from the syntax may be further modified in the PF component by morphological operations

The following sets out some of the properties of morphological operations in DM (Halle&Marantz (1994:276)).

Morphological operations are constrained by strict locality conditions. The interacting constituents must stand in a government relation with respect to each other or be structurally adjacent.

DM includes a number of operations some of which resemble familiar syntactic operations (showing a parallel between word-internal and word-external syntax):

- syntactic head-to-head movement (Baker 1985)
- merger under adjacency (Marantz 1988)

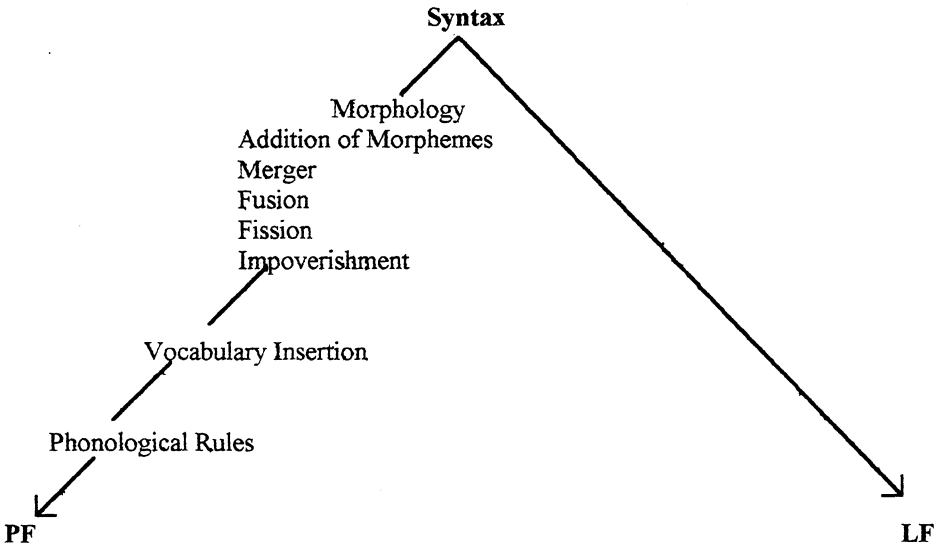
(Merger and X°-Movement are both available in Syntax and Morphology)

Furthermore various changes on the feature bundles of the terminal nodes can be brought about by morphology. These include fusion (i.e features of several nodes can be fused into one node), fission (i.e.features of one node can be fissioned into a sequence of nodes), addition and deletion of features.

Thus it becomes clear that "because these operations are strictly local and respect syntactic hierarchical principles, the hierarchical structure into which Vocabulary Items are inserted deviates only to a limited extent from the one that is syntactically motivated." Halle & Marantz (1994:276).

Vocabulary insertion takes place after these postsyntactic morphological operations. Thus the following schema of the grammar arises (Halle &Marantz 1994:277(2)):

(18)



As a matter of illustration it will be shown how some of these operations work.

Unlike syntactic operations, the morphological component has the power to impoverish feature bundles of terminal nodes. This simply means that one of the features in a bundle can be deleted, an operation which as we will later see is widely used in morphological systems, where usually not all semantic features are overtly realized by a morpheme.

(19) Impoverishment (Harris 1994:324(7a))

[X, Y]
↓
Ø

Another more intricate operation is the fissioning of features of one node into a sequence of nodes.

(20) Fission (Harris 1994:325(7d))

⌈X ⌉ → [X] ^[Y]
⌊Y ⌋

This operation is used to account for the realization of reflexive features in Catalan (Harris 1994:348). Here a reflexive feature is realized not as one element, but as a default reflexive element in 3rd person together with another pronoun that just realizes the person feature of this reflexive element. This is illustrated in (21):

(21) ***Se***$_r$ *te*$_d$ ***m***$_r$ *'escapar-é*
REFL 2PSg 1PRefl escape-fut1Sg
'I will escape from you'

In this case we have semantically two pronouns - a dative 2ndPPl and a reflexive 1stP pronoun - and not three. The feature bundle of the reflexive gets fissioned, resulting in a pure person feature node and a reflexive node. (^ means adjacent but linearly unordered).

(22)

$$[\alpha\text{per}]\ \hat{}\ \begin{bmatrix}\text{ref}\\ \beta\ \text{per}\end{bmatrix} \rightarrow [\alpha\text{per}]\ \hat{}\ [\beta\ \text{per}]\ \hat{}\ [\text{ref}]$$

In addition to this operation, language-specific principles that sequence the elements of the clusters are needed. For Catalan these are as in (23):

(23) a. *[cl]-[s]
b. *[1per]-[2per]

So the concrete feature realization for (21) is (24), resulting after the application of the ordering constraints in (25):

(24)
[2per] ^ [1per] ^ [ref]
↓ ↓ ↓
t m s

(25)
[ref]-[2per]-[1per]
↓ ↓ ↓
s t m

3. The Spanish Pronominal Clitic System

In this section, we come to the DM-analysis of spurious *se* and to the pattern defining the impoverishments in the Latin American clitic system. The properties of Carribean Spanish are dealt with in section 4.

First, we need to look briefly at the Spanish clitic paradigm and at the morphological structure of Spanish nominals.

There are 40 morphologically distinct feature complexes for Spanish pronouns; these are realized as 11 distinct clitics for Iberian Spanish (Harris 1994:326). In other dialects there are even fewer distinct clitics.

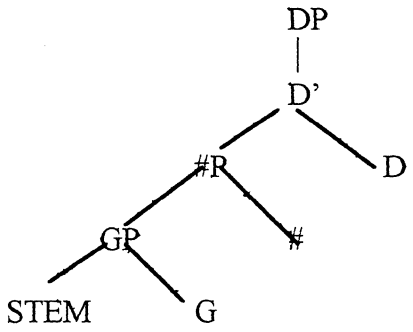
(26)

	3P		**2P**		**1P**	
	m	**f**	**m**	**f**	**m**	**f**
ACC Sg	lo	la	te		me	
Pl	los	las	os		nos	
DAT Sg	le					
Pl	les					
REF Sg	se					
Pl						

The table in (26) reveals that in Standard Spanish a variety of feature impoverishments have taken place. First and second person pronouns lack the features of Case and Gender altogether in their feature matrices. Furthermore third person dative pronouns lack Gender features.

DM presupposes a detailed feature analysis of the inflectional elements of the terminal nodes. So the "hierarchical structure all the way down" mentioned above would look as follows (as proposed for Spanish by Harris (1994:329)).

(27)



man	*o*	*(s)*	'hands'	noun
sol	*a*	*(s)*	'alone'	adj/fem(pl)
l	*a*	*(s)*	'the'	Art/Objpron-fem-(pl)
sol	*o*	*(s)*	'alone'	adj/masc (pl)
l	*o*	*(s)*	'the'	Art/Objpron-masc(pl)
n	*o*	*s*	'us'	1PPl-pronoun
s	*e*			Refl-pronoun

(27) shows the morphological structure in the DM-model assumed for Spanish [+N]-elements (nouns, adjectives and pronouns). Below the syntactic head-level we find hierarchically ordered functional phrases like NumberPhrase (#P) and GenderPhrase.

We need these assumptions about the detailed morphological structure (feature realization) to see what a well-formed morphological structure is and why in complex head structures certain reorderings take place. The effect is that the final structure of complex heads corresponds in the feature realizations to the pattern defining 'simplex' morphological objects.

3.1. The account for Spurious *se* in DM (Bonet 1995)

As already mentioned in 1.1.1., all dialects of Spanish display the property that when a 3rdPdative pronoun (*le*) appears in combination with a 3rdPaccusative pronoun (*lo*), the third person dative *le* appears as a *se*, which corresponds to the spell-out of a reflexive clitic, cf. (1.c) here repeated as (28):

(28) *A Pedro, el premio,* ***se lo*** *dieron (*****le lo*** *dieron)* (Bonet1995:632)
to Pedro the prize se 3acc gave(3pl)
'they gave the prize to Pedro yesterday'

Bonet analyzes this in two stages. First an impoverishment rule deletes Dative Case when it appears in combination with an accusative clitic:

(29) [acc]^[dat]
↓
Ø

After this impoverishment, the resulting feature slot for the dative pronoun only contains a person feature [3per]. The only element being able only to realize this feature is *se* - cf.(26). Recall that the insertion of a vocabulary item is only possible if the features of the item either match the features of the node or contain a subset of the feature of that node. '*Le*' cannot be inserted because it is overspecified.

Under this account, 'spurious *se*' is less of an arbitrary phenomenon than it may appear to be. Bonet (1995:612) notices that where there is an 'opaque' form in a clitic cluster, it is always the form of an independently existing clitic. There could not be an arbitrary phonetic sequence, e.g. /ba/ or /gu/, which does not act as a transparent clitic elsewhere:

(30) Generalization (Bonet 1995:612)
Opaque output forms in clitic combinations always result in another clitic form, indicating a closed system.

So it follows from Bonet's account that the spell-out of an impoverished slot always converges with another existing morpheme.

Compare this with Perlmutter's Filter-based account:

(31) Spanish Spurious *se* Rule (Perlmutter 1971)

[Pro]	[Pro]		
[III]	[III]		
[dat]	[acc]		
1	2	→	se, 2

This Filter provides no explanation why the dative pronoun in this case is spelled out as *se*, (we could easily replace *se* with *ba* in (31)) whereas the DM-rules and the competition of underspecified elements to match with the feature matrix of the respective node can give an account.

3.2. Further impoverishments of clitic pronouns in LA dialects

We now look at the differences between the Standard Spanish pronoun paradigm and the paradigms in some Latin American (LA) dialects. The impoverishments in the pronoun system have gone much further in LA dialects. Impoverishment of Case, which takes place in 1st and 2nd person pronouns in all dialects of Spanish, also takes place in the 3rd person pronoun system. There are three different manifestations of this, traditionally known as 'leísmo', laísmo' and 'loísmo'.

'Leísmo' dialects have an impoverishment of Case and Gender, resulting in the use of *le* for all 3rd person clitics - accusative as well as dative.

In 'Loísmo 'and 'Laísmo' dialects, gender is preserved in the acc-paradigm but one member of the acc-paradigm takes over the Dat-paradigm, resulting in the use of *lo* for dative in Loísmo and the use of *la* for dative in Laísmo.

The relevant data are given in (32) to (34) (Data are taken from de Bruyne 1993:157)

Leísmo **le - instead of -** **la**

(32) a. *Vamos a llamar**le*** *¿A la camarera?*
Are-going-to call-her to the waitress

les - instead of - **los**

b. *Vaya, **les** dejo*
Well, them leave1Sg
'Well, I leave them'

les - instead of - las

c. *El tiempo se **les** va comiendo*
The weather refl them is eating
'The weather is getting them down'

Laísmo **la - instead of - le**

(33) a. *Él la sonreía, **la** tomaba una mano y **la** decía...*
He her smiled-at, her took one hand and her said
He smiled at her, took her by the hand and told her...

las - instead of - les

b. *Si se encontrase la manera de abordar**las** sin dar**las** miedo*
If se find the way to adress-them.fem without give.them.fem fear
'If we could find a way to speak to them without frightening them'

loísmo **lo - instead of - le**

(34) a. ***Lo** pegaron una bofetada*
Him hit3Pl a smack
'They boxed his ears'

los - instead of - les

b. *Llaman y no **los** hacen caso*
Call3Pl and not them make case
'They call and noone pays any attention to them'

Thus the following picture of the use of third person clitics in various dialects of Spanish arises:

(35)

	Cast. Span		**leísmo**		**laísmo**		**loísmo**	
	3Pmasc	3Pfem	3Pmasc	3Pfem	3Pmasc	3Pfem	3Pmasc	3Pfem
Dat	le(s)		**le(s)**		**la(s)**		**lo(s)**	
Akk	lo(s)	la(s)	**le(s)**		lo(s)	**la(s)**	**lo(s)**	la(s)

4. Caribbean Spanish

4.1. Pronominal Clitics and Plural-Marking

As already mentioned in 1.4.1., Carribean Spanish displays the interesting property of 'stranding' the plural marking of the verb, realizing it after the enclitic pronouns (see Minkoff (1993), from whom the data are taken).

NSp			CSp		
(36)a.	*agarr-e-n*	(37)	a.	*agarr-e-n*	
	grab.IMP.2PL			grab.IMP.2PL	'Y'all grab!'
b.	*agarr-e-n-**se***		b.	*agarr-e-**se**-n*	
	grab.IMP.2PL.2PL			grab.IMP.2PL.2PL	'Grab yourselves!'

c.	*agarr-e-n-**se-la***	c.	*agarr-e-**se-la**-n*
	grab.IMP.2PL.2PL.3		grab.IMP.2PL.3.2PL 'Grab yourselves/(them)it!'

That this is not a pure phonological process is demonstrated by the data in (38)c. Where the verb stem ends on *-n-*, no disposition of *-n-* takes place.

	NSp		CSp		
(38)a.	*pon-**me-(-lo)***	b.	*pon-**me-(-lo)***	c.	**po-**me-(lo)**-n*
	put.1.(3)				
	'put it (for me)				

This phenomenon ist not only observed with the *-n*-plural above but also with the *-s*-plural for 1PPl.

	NSp/CSp	NSp		CSp	
(39)a.	*d-e-mos*	b.	*d-e-**mos-le***	c.	*d-e-**mo-le**-s*
	give.IMP.1PL		give.IMP.1PL.3		give.IMP.?3?
	'Let's give		Let's give her/him sth.		Let's give her/him sth.

However, it is not just the plural endings of verbs get 'displaced'. As (40) shows, the plural ending of the clitic *nos* can also strand in CSp.

(40)a.	*d-e-nos*	b.	*d-e-**nos-lo***	c.	*d-e-**no-lo**-s*
	give.IMPSg.1PL		give.IMPSg.1PL.3		give.IMP.?3?
	give him!		Give him it!		

Again, (41) proves that this it not merely a phonological process.

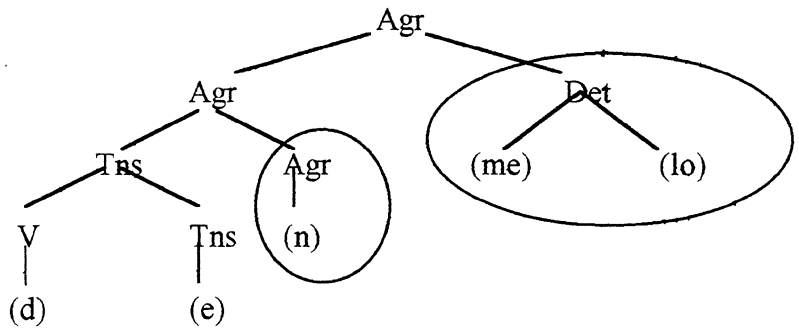
(41)a.	*haz-**me-(lo)***	b.	**ha-**me-(lo)**z*
	make.1.(3)		ma.1.(3).ke
	Make(it) for me		

How can these 'dispositions' of clitics in CSp be analyzed in the DM-model?

First, notice that the *-s*-plural is the default plural in Spanish. The *-n*-plural occurs only in second and third person plural subject agreement. Everywhere else plural is realized by *-s-* (cf. the Spanish nominal and adjectival inflections in (27)).

The basic assumption in the DM analysis of the behaviour of the clitics in CSp is (Halle&Marantz 1994:287) that the positioning of clitics is driven by the need for the terminal nodes carrying person and case features to appear to the left of plural (cf the morphological structure trees from Harris. The NumberPhrase is assumed to be the highest functional category below the X°-level).

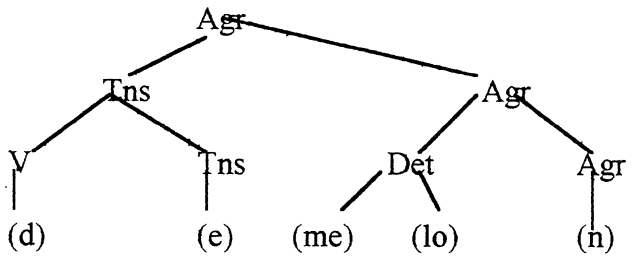
(42)



(42) is the structure provided by syntax, which puts the clitic-cluster and the inflected verb into adjacent positions (Halle&Marantz 1994:286(14)).

Now in postsyntactic morphology, the clitic cluster, a Det node, left-adjoins to the terminal Agr node with which it is already structurally adjacent. This movement recreates the usual affix order in inflected words (with the plural suffix to the right of other feature complexes).

(43)



These movements exemplify the assumed parallel between word-internal and word-external syntax that DM predicts.

However only "clitics that themselves lack a plural suffix will tuck into the imperative verb between the imperative inflection and the plural suffix" (Halle & Marantz 1994:285). This is demonstrated by (44) and (45) where we have already a plural-clitic (3rdPPl and 1PPl respectively) and the resulting tucking-in is ungrammatical (data from Halle&Marantz 1994:287(16)).

(44) a. de-n- l-o -s
b. *de-lo-n-s
c. *de-los-n

(45) a. de-n- no-s
b. *de-no-n-s
c. *de-no-s-n

4.2. Parasitic plural effect

CSp clitic clusters display another interesting property. Whereas in the enclitization patterns the plural of the verb was realized to the right of the clitic cluster, in 'parasitic' plurals (which appear in proclitic contexts) the plural marking of one of the clitics is not realized on the pronoun itself but on the rightmost pronominal clitic. (46.a) can have the interpretation in (46.b) in CSp, but it can also be interpreted as in (46.c) (which is the only interpretation in Standard Spanish). In (46.b), the plural marking of the dative pronoun is realized on the right of the clitic cluster as an ending to the accusative pronoun, i.e. the plural of the dative is formally realized on the following Acc-pronoun. Thus, in CSp, there are three possible interpretations for one overt plural on the Acc-clitic, either the Dat-clitic or the Acc-clitic are plural, or both of them are (46.d) (Harris1994:334).

(46) a. ***Se*** $_{d}$ ***los*** $_{ac}$ *traerán*
3PDat - 3PAccmasc-Pl bring-fut3PPl
b. They will bring it to them
c. They will bring them to him/her
d. They will bring them to them

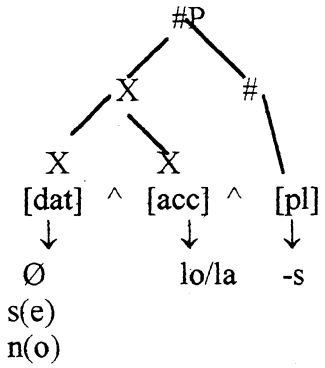
4.3. Parasitic *nos*-plural

The shift of the plural morpheme from one clitic to another can also happen with the 1PPl-clitic *no-s* (even leading to a homophony with the negation marker *no*) (Harris1994:334):

		NSp		CSp
(47)	a.	***No-s-lo*** *d-a-n*	b.	***No-lo-s*** *d-a-n*
		1Pl.3. give.Th.Pl		1.3.Pl give.Th.Pl
		'They give it to us		

The pronominal clitics are in an adjunction structure in which they are dominated by a superordinate constituent of the same category. Then morphological reordering takes place, yielding the normal constituent structure of (pro)nominals including a dominating #P. The sequence 3Pdat-Pl + 3Pacc is reordered into 3Pdat-3Pacc-Pl (Harris 1994:335).

(48)



Note that in contrast to the encliticization cases where the plural marker of the verb was realized on the right of the whole verb-clitic-complex, in parasitic plurals the plural of one clitic pronoun goes to the rightmost position of the clitic cluster, but not to the rightmost position of the whole verb-clitic complex, as is seen in (46) and (47). This seems to show that in proclitic contexts, the clitic cluster and the inflected verb do not form a complex constituent.

The difference between Standard Spanish and Carribean Spanish seems to lie in the analysis of the clitic cluster and the clitic-verb-complex as one morphological object (CSp) or just as independent heads following each other, each being an independent morphological object (NSp).

5. Future and Conditional Verbforms in European Portuguese and Old Spanish

In this section, I examine similar phenomena which previously received a syntactic account. I suggest that the DM approach can be applied to these, too.

In European Portuguese (EP), pronominal clitics in enclitic position are placed between the verb stem and the inflectional endings for future and conditional .

(49)	a.	*levar.ei*	*b.*	*levar.ia*	(Spencer 1991:366)
		raise.fut1Sg		raise.cond1Sg	
(50)	a.	*levá-**lo**-ei*	b.	*levá-**lo**-ia*	
		raise-it-fut1PSg		raise-it-cond1PSg	

This is also the case when there is more than one pronominal clitic:

(51) *Mostra-**no-los**-á*
show-us-them-fut3PSg

Enclitization takes place in root sentences as in (52), (53) (All data taken from Lema&Rivero (1989) and (1990)):

(52) *Seguir-**te**-ei por toda a parte* EP
Follow-you-will-1Sg by all the part
'I will follow you everywhere'

(53) *Dir-**se**-ia um povo predestinado*
Tell-se-imp-had a people predestined
'One would say it is a predestined people'

The same phenomenon was found in Old Spanish (OSp) as shown by LEMA &RIVERO (1989, 1990), as the following examples show:

(54) *Dar-**te**-he un exemplo*
give-you-will1Sg an example
'I will give you an example'

(55) *Si yo vivo, Doblar-**vos**-he la soldada*
If I live, Double-you-I-have the wages
'If I live, I will double your pay'

As in Carribean Spanish, this effect only occurs with enclitic pronouns (the conditions for encliticization are different in EP/OSP in contrast to Modern Spanish; enclisis is found on finite verb forms in EP/OSp whereas MSp allows enclitization on tensed forms only in imperatives)

In embedded sentences the pronominal clitics in EP/OSp always precede the verb:

(56) *Uma historia... onde **me** referir**ei** de espaço a elle* EP
a history... where me refer-will+1Sg of space to her
'A history... where I will refer to it at length'

(57) *Semejame que **vos** excusar**iedes** bien* OSp
Seems-me that yourself excuse-would+2Pl well
'It seems to me that you would excuse yourself well'

The formation of 'V + CL + INFL' sequences in EP and OSp were analyzed by Lema&Rivero as the result of syntactic processes. Their account is briefly described here (see Lema&Rivero (1989, 1990) for details).

The 'INFL-endings' in EP/OSp are analyzed as independent auxiliaries, i.e. independent heads in syntax. (Notice that this assumption is not made for the number agreement in CSp in the account given above). The EP/OSp future and conditionals are therefore treated as underlyingly periphrastic. The surface order for examples (e.g. (56), (57)) with preverbal clitics is analyzed as the result of verb-raising to AUX (X°-movement) (58.a.).

In the enclitic examples (52)- (55), it is assumed that the verb raises past the AUX in Infl and past the clitic. This verb-movement is analyzed as Last-Resort-movement, in order to

provide the enclitic pronoun with a suitable host, to avoid clitic-first-sequences (Tobler-Mussafia-Law) (58.b).

(58) a. ... cl ... V + Aux ... [$_{VP}$ t_V ...]

b. V + cl [Aux ... [$_{VP}$ t_V ...]]

This analysis explains why V+CL+AUX sequences only arise in some root sentences - in other contexts, the enclitic pronoun is preceded by other material which may act as host for the clitic. However, the verb-movement in (58.b) skips the Aux-head in Infl, thereby violating the Head-Movement-Constraint (HMC).

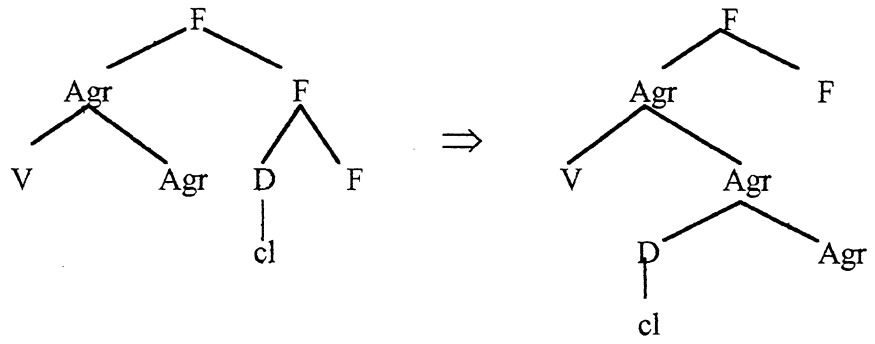
The abandonment of HMC is a costly conclusion for syntactic theory. An alternative analysis which avoids this price would be desirable. A DM account of how the pronoun intervenes between V and INFL allows HMC to be preserved. Also, such an account is supported by the CSp cases discussed above (for which no syntactic account exists).

A DM-account would run as follows. In the sentences with preverbal clitics (56), (57), Lema&Rivero's account would be maintained. (Alternatively, these forms could be treated simply as inflected verb forms, rather than periphrastic constructions with V-raising to Aux. Notice that the order 'Aux ... V' is never found with these forms.)

In the sentences with enclitic i.e. postverbal pronouns (52)-(55), we need to assume only that the inflected verb raises in syntax to adjoin to the clitic pronoun (or the functional head which contains the clitic pronoun) (59.a).

(59) a. [V + INFL] + CL [$_{VP}$ ...t_V ...]

b.



This creates local adjacency under one X°-node. Then the reordering of INFL and CL takes place in morphology, by rule (59.b) similar to the one involved in CSp.

5. Consequences

If we indeed need this (powerful) system of morphological rules (postsyntactic operations that rearrange adjacent constituents) which further research in this approach should prove, then this should have consequences for the range of phenomena that we account for in syntax. With DM it is no longer necessary to seek syntactic explanations for certain facts - especially concerning the order of morphemes.

It should then be possible to have a restricted syntactic structure building with a finite set of functional categories with fixed ordering in syntax (which is desirable). Any deviations from this should then be accounted for by morphological operations (reorderings).

That would also put the discussion about the Mirror Principle (Baker 1985) on the agenda, which stated that the order of morphological operations, as revealed by the order of affixation, is always identical to that of syntactic operations. This was a desirable concept but as is well known there are many counterexamples to the idea that the order of the affixes corresponds to the order of functional categories (cf. recent literature on Basque - Laka 1993, Navajo - Speas 1991, or Quechua - Muysken 1988). In the DM line of reasoning we expect either the Mirror Principle to hold (i.e. tranparent morphology) or only deviations from the Mirror Principle permitted by operations of DM (which has still to be shown to hold).

Further research will show how DM can adequately account for other morphological problems and should compare morphological conceptions like DM (i.e. underspecification by impoverishment, late insertion and morphological operations of the above mentioned kinds) with alternative approaches involving underspecification in syntax and early insertion. It has become clear from the above discussion that especially the phenomena related to the positioning of clitics and inflectional elements exemplified from various languages, pose problems for 'early insertion'-theories. In such theories these displacements are left to syntax, which only manages the task with various additional (construction-specific) assumptions only motivated by those types of morphological processes.

Last but not least an interesting similarity of the DM conception to a conception of the Lexicon in a production model should be mentioned, which potentially provides psycholinguistic evidence for this kind of morphological model. This is Levelt's (1989) Speech production model. His proposal includes a model of the Mental Lexicon which assumes a separation between lemma and form lexicon, whereby form items are inserted only after grammatical encoding in the process of phonological encoding (i.e. postsyntactically).

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