

# Unexpected Plural Inflections in Spanish: Reduplication and Metathesis

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We examine the puzzling displacement in various Spanish dialects of a plural suffix from a verb where it is motivated semantically, syntactically, and morphologically onto a following clitic. We present previously unreported data and a new analysis of this material that succeeds where earlier efforts fail to provide a unified account of related phenomena. Our solution, which employs recent work on reduplication and metathesis, allows us to account for seemingly disparate phenomena as special cases of a single general framework and demonstrates that these operations are more versatile than previously thought. Directions for future research are indicated.

*Keywords:* form-meaning mismatches, Distributed Morphology, metathesis, reduplication, plural inflection, Spanish

In certain varieties of Spanish, plural suffixes appear in unexpected positions. In working out an explanation for these surprising dislocations, we develop a new descriptive apparatus that formally unites two related morphological phenomena in Spanish that previous analyses are forced to treat as unrelated. We see these two phenomena as instances of reduplication. As explained in section 1, metathesis is a special case of partial reduplication and thus requires no additional device of its own.

The regular phonological realizations of morphological plurality in Spanish are illustrated in the following examples:<sup>1</sup>

(1) a. -n on finite V (including imperative)

Vénda•lo. 'Sell-SG it.'

Véndañ•lo. 'Sell-PL it.'

b. -Ø on clitic se

Se<sub>i</sub>•lo<sub>j</sub>•vendí. 'I sold it<sub>j</sub> to him<sub>i</sub>.'

Se<sub>i</sub>•lo<sub>j</sub>•vendí. 'I sold it<sub>j</sub> to them<sub>i</sub>.'

Thanks go first to the *bicitaxista* in Mexico City whose ¡*Súbanlen!* 'Hop in' was this work's Big Bang, then to other Spanish speakers too numerous to list whose judgments we have utilized. We are grateful to audiences in Mexico and at MIT for comments on earlier versions. John Frampton, Andrew Nevins, Norvin Richards, Donca Steriade, and Bert Vaux were especially helpful.

<sup>1</sup> To make examples easier to read, bullets (•) not used in conventional spelling indicate cliticization. Orthographic accent marks, which obey arbitrary rules, can be disregarded.

- c. *-s on N, A, Det, etc. (default)*  
 Vénda•nos<sub>i</sub>•lo<sub>j</sub>. ‘Sell-SG it<sub>j</sub> to us<sub>i</sub>.’

For readers not conversant with the syntax and morphology of verbs and pronominal clitics in Spanish, here is some background information. Clitics appear to the right of affirmative imperatives, as illustrated in (1a) and (1c); clitics precede all other verb forms marked for person and/or number, as illustrated in (1b). The suffix *-n* is the normal exponent of plurality in verbs (with other realizations in certain tense/mood/aspect forms not relevant at the moment). As for nominals, the root of *se* (1b) is unique in never overtly manifesting its syntactic plurality, whose exponent is *-s* in all other nonverb forms in the language, as illustrated in (1c).

The forms in (1) are mandated by prescriptivists and used by the vast majority of speakers in “correct” speech. The alternative plural configurations shown in (2) with the corresponding normative forms are also used, though they are stigmatized to varying degrees in different locales.

- |     |                       |                        |
|-----|-----------------------|------------------------|
| (2) | <i>Normative</i>      | <i>Alternative</i>     |
| a.  | véndan•lo             | véndan•lon             |
|     |                       | vénda∅•lon             |
| b.  | se•lo•vendí (a ellos) | se•los•vendí (a ellos) |
| c.  | vénda•nos•lo          | vénda•no∅•los          |

The alternative configurations in (2) are entirely synonymous with their “correct” mates. However, the location of plural inflections in (2) diverges strikingly from their location in (1): in alternative (2a), the verb suffix *-n* appears on the singular clitic *lon* in addition to, or instead of, appearing on the plural imperative *véndan* as expected. As far as we know, these variants are equally common with all types of verbs that take enclitics. The *lon* in (2a) is doubly anomalous in that its inflection is verbal rather than the default *-s* expected on a pronominal clitic. For convenience, we will often refer to the phenomena illustrated in (2a) as *Kopy* and *VIM* (for *verb inflection metathesis*).

In alternative (2b), the clitic *los* bears the plural marker *-s* despite being semantically and syntactically singular; in alternative (2c), the *-s* expected on plural *nos* appears instead on singular *los*.

The alternatives illustrated in (2) are not occasional performance errors; they are systematic realizations of speakers’ intentions. A given speaker may elect to use either a normative form or an alternative, depending on register.<sup>2</sup>

<sup>2</sup> Examples of this sort are documented in parts of Spain and every Latin American country as well as in dialects of contemporary Ladino (diaspora Judeo-Spanish). They can be heard on Boston-area TV and radio talk shows and in Mexican movies recently widely shown in the United States. Also, Google yields abundant hits for individual words from a wide variety of sources. The present study relies on judgments from a number of native consultants and includes data from Argentina, Costa Rica, the Dominican Republic, Ecuador, Israel (for Ladino), Mexico, Peru, Spain, Uruguay, and Venezuela.

Bert Vaux informs us (pers. comm.) that in certain dialects of Armenian, the imperfective clitic *g(u)* is placed before vowel-initial and monosyllabic verbs but after all other verbs (e.g., *g-ert’am* ‘I go’ and *gu-dam* ‘I give’ but *hanim-gu* ‘I take out’). In certain other dialects, *g(u)* is both prefixed and suffixed to vowel-initial verbs (e.g., *g-ert’am-gu*). These two treatments resemble Spanish *VIM* and *Kopy*, respectively. Additional discussion can be found in Vaux 1998, 1999.

In a nutshell, the data in (2) illustrate (a) that verb-plural *-n* can migrate to an immediately following enclitic, leaving a copy on the verb or not and (b) that nominal *-s* can migrate from a clitic to an adjacent clitic on its immediate right. In neither case can anything other than a clitic intervene in the path of migration. These effects differ in that the first case involves only enclisis while the second is equally at home in proclisis and enclisis; moreover, the second case always involves movement rather than copying.

The challenge offered by this material to provide descriptively adequate analyses of verbs and clitics in Spanish within an explanatory theory of syntax and morphology has been addressed before.<sup>3</sup> This article contains previously unreported data and, more importantly, a radically novel analysis. We focus on the Kopy and VIM cases, which share a number of intricate properties and for many speakers are more or less free variants. We take these commonalities as evidence that Kopy and VIM are closely related in native-speaker competence and thus demand a formal treatment that captures their relatedness appropriately, which previous analyses have not been able to do. We also discuss, more briefly, aspects of the already well-studied nominal cases (2b) and (2c).

This article is organized as follows. Section 1 presents our general stance regarding the organization of grammar and the particular proposals essential to our analysis of Spanish. Section 2 examines Kopy and VIM in greater detail. Section 3 briefly discusses certain aspects of the nominal cases (2b) and (2c). Section 4 evaluates our analysis with respect to earlier accounts, and section 5 contains a brief envoi.

## 1 The Framework

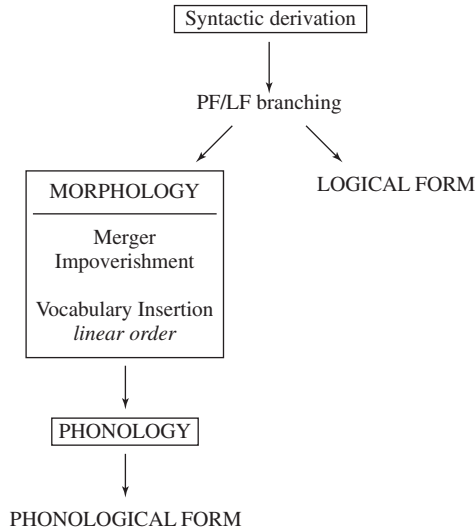
In this section, we describe our theoretical framework in broad terms, and we lay out the basic machinery of a novel theory that succeeds in characterizing each of Kopy and VIM on its own terms while also accounting for their shared properties. We exemplify our theory with Spanish where possible and with other languages if Spanish happens not to provide an apt example.

We assume the organization of grammar as envisioned by the theory of Distributed Morphology, adapted as schematized in figure 1.<sup>4</sup> In this framework, the output of syntactic derivation consists of hierarchically organized but linearly unordered bundles of abstract syntactic features that are the input to computations on the Phonological Form (PF) branch of derivation that manipulate these hierarchical structures and linearize them upon Vocabulary Insertion. Vocabulary Insertion supplies the phonological features of terminal morphemes resulting from the computation to this point, along with other idiosyncratic information, such as morphological gender and inflectional class, for each item.<sup>5</sup>

<sup>3</sup> Earlier discussion can be found in Alonso and Henríquez Ureña 1964, Bonet 1991, Entwistle 1936, García de Diego 1959, Grimshaw 1997, Harris 1994a,b, 1995, 1998a,b, Kany 1951, Menéndez Pidal 1962, Minkoff 1994, and Rosenblat 1946, among other works.

<sup>4</sup> See Halle 1990, 1997, Halle and Marantz 1993, 1994, Harley and Noyer 1999, Marantz 1992, 1995, Noyer 1997, and related works (e.g., Embick 2000, Embick and Noyer 2001). The more general background is that of Chomsky 1995, 2000.

<sup>5</sup> We are not concerned here with the Logical Form (LF) branch of derivation; our attention is focused on the Morphology component of grammar, whose operations are irrelevant to LF as can be inferred from figure 1.



**Figure 1**  
Distributed Morphology

The choice of Distributed Morphology as the theoretical framework is not casual. Nonderivational output-oriented models such as Optimality Theory have next to nothing to say about the relation of morphological surface structures to other levels of representation (semantic, syntactic) and about principles that define such relations. This orientation thus sheds no light on the knowledge native speakers have of how the alternative structures illustrated in (2) are related to and deviate in systematic ways from the level of representation illustrated in (1). Distributed Morphology, on the other hand, is the most highly articulated theory with which we are familiar that strives to explain such interlevel relationships.

Our fundamental claim about the Spanish data is that both Kopy and VIM are special instances of reduplication. Reduplication is a process of word formation whereby a designated contiguous subsequence of elements in a base form is repeated—that is, appears twice—in its entirety (“full reduplication”) or in part (“partial reduplication”) in a derived form. The process of repetition is triggered by some condition or set of conditions outside the reduplicated phonological sequence, as is the demarcation of this phonological substring. We present below an extended view of reduplication: not only phonological segments but syntactic and morphological elements as well can be both triggers and targets of reduplication. Our understanding of reduplication has profited greatly from Steriade 1988 and especially from Raimy 1999, 2001, Fitzpatrick and Nevins 2002, and Frampton, to appear. We depart, however, from these sources in certain important respects.<sup>6</sup>

Reduplication, again, is a process in which certain contiguous pieces of a word are duplicated in a derived form. For example, as illustrated in (3a), noun plurals in Mangyarrayi are formed

<sup>6</sup> These departures are addressed in Halle, in preparation.

by repeating the consecutive substring that begins with the first vowel of the singular and includes the immediately following consonants up to the next vowel. Similarly, as illustrated in (3b), in Agta a reduplicated string consisting of the first consonant, if there is one, of a word followed by the first vowel and the immediately following consonant derives plural nouns from singulars. These are both examples of full reduplication.

- (3) a. *Mangyarrayi* (Raimy 2001:135)
- |                         |                             |                        |
|-------------------------|-----------------------------|------------------------|
| j- <i>img-an</i>        | j- <i>img-<u>img</u>-an</i> | 'knowledgeable one(s)' |
| g- <i>ab-<u>uji</u></i> | g- <i>ab-<u>ab-uji</u></i>  | 'old person(s)'        |
- b. *Agta* (Raimy 2001:127–128)
- |               |                   |            |
|---------------|-------------------|------------|
| pus- <i>a</i> | pus- <i>pus-a</i> | 'cat(s)'   |
| uf- <i>fu</i> | uf- <i>uf-fu</i>  | 'thigh(s)' |

We emphasize two points: (a) the designated string in reduplication is always a contiguous subsequence in the word; (b) this string need not have any status in the prosodic hierarchy. (We insert hyphens in inputs and outputs to make examples easier to read; these hyphens have no other import.) In *Mangyarrayi*, the reduplicated string consists of a syllable rime plus the following onset; in *Agta*, the reduplicated string includes the word-initial syllable and the directly following consonant regardless of the syllable to which it belongs.

The abstract derivation in (4) displays the most elementary device in our formal apparatus—the only device needed for full reduplication—and its notation.

- (4) ABCDE underlying phonological string  
 A[BCD]E [X] = reduplicating subsequence  
 A-BCD-BCD-E result of reduplication

The subsequence to be reduplicated is delimited by a pair of junctures represented in (4) by paired square brackets. By its very nature, this notation guarantees that only contiguous elements are reduplicated: discontinuous sequences cannot be represented in this notation. In the overwhelming majority of cases, these brackets do not appear in the underlying phonological string itself but rather are supplied in accordance with readjustment rules that specify the relevant morphological condition(s). These brackets are unpronounceable and thus must be eliminated at some point from the phonological representation. We propose that they are automatically erased upon execution of the operation they notate since they are not referred to by any subsequent operation. In cases of full reduplication, in which the designated substring is repeated in its entirety as in (4), it is neither necessary nor possible to identify one of the two repeated sequences in the output as the “original” and one as the “copy.”

Two examples of partial reduplication are given in (5). In (5a), we reproduce an example from Marantz 1982; (5b) is from work by Halle and Ora Matushansky now in progress.

- (5) a. *Madurese*
- |       |              |                |
|-------|--------------|----------------|
| estre | tre-estre-an | 'wife'/'wives' |
|-------|--------------|----------------|
- b. *Russian*
- |         |         |                     |
|---------|---------|---------------------|
| kol-e-t | kolo-t' | 'stab 3SG PRES/INF' |
|---------|---------|---------------------|

In (5a), the initial VC sequence of [estre] is omitted in the first copy in the reduplicated output but retained in the second copy. On the other hand, in (5b) in the infinitive (and more generally, in preconsonantal position) the /o/ but not the following liquid is reduplicated. (This process is the reflex in East Slavic of the evolution of /o,e/ + liquid sequences that played a major role in the evolution of the Slavic languages.) To deal with partial reduplication of this kind, we enrich the notation by admitting junctures represented as unpaired angle brackets inside a sequence delimited by paired square brackets.

- (6) a.  $A[B]C]D \rightarrow A-\overline{BC}-BC-D = A-C-BC-D$   
 b.  $A[B\langle C \rangle]D \rightarrow A-BC-\overline{BC}-D = A-BC-B-D$

Representations of the form  $A[B]CD]E$  automatically result in outputs of the form  $A-CD-BCD-E$  while those of the form  $A[BC\langle D \rangle]E$  result in  $A-BCD-BC-E$ . In other words, the configuration  $[X]$  at the beginning of an input string indicates that  $X$  is omitted in the first copy in the output, and  $\langle X \rangle$  at the end of an input string indicates that  $X$  is omitted in the second copy in the output.<sup>7</sup> The representations in (6) with shaded segments have no theoretical status; their purpose is to illustrate the effect of the notation. It is as meaningless in (5) and (6) as in (3) and (4) to ask which of the output copies is the “original” and which is the “copy” (and hence whether the “copy” appears to the left or to the right of the “original”). The only meaningful question is which of the two output copies retains the material enclosed between an angle bracket and the square bracket at the beginning or end of the designated substring.

In (7), we illustrate how the formalism in (6) produces the reduplication effects of Madurese and Russian shown in (5).<sup>8</sup>

- (7) a. *Madurese*  
 [es)tre]an  $\rightarrow$  estre-estre-an = tre-estre-an  
 b. *Russian*  
 k[o⟨l⟩]t'  $\rightarrow$  k-ol-ol-t' = k-ol-o-t'

Two points are to be especially noted here. First, the square and angle brackets that delimit the strings affected and determine the outputs of partial reduplication are introduced by readjustment rules, as we have said, and they are automatically eliminated upon execution of the operation they notate. Second, only output representations are interpreted as instructions to the vocal apparatus for pronunciation. Underlying and intermediate representations do not directly characterize articulatory and/or acoustic events; rather, they are theoretical entities that formalize mental computations not accessible to direct observation. This is true of every phonological derivation, and so it is with (7) and all the other derivations that appear in this article.

<sup>7</sup> Distinct left- and right-facing juncture symbols such as  $\rangle$  and  $\langle$  are necessary since a representation such as  $A[B^*C]D$  with  $*$  or any other nondirectional character would be ambiguous with regard to the omission of  $B$  and  $C$ .

<sup>8</sup> As in (6), the representations in (7) with shaded segments are purely illustrative and have no theoretical status.

The Spanish Kopy phenomenon (2a) instantiates the effect formulated abstractly in (6b).

$$(8) \quad A [B \langle C \rangle D] \rightarrow A -BC -B C -D = A -BC -B-D \\ \text{vénda } [n \langle \bullet lo \rangle] \rightarrow \text{vénda } -n \bullet lo -n \bullet lo = \text{vénda}\underline{n} \bullet \underline{lo}$$

As shown, the designated substring of the input to reduplication is  $[n \langle \bullet lo \rangle]$ ; the verb-plural inflection  $-n$  at the beginning of this substring appears in both output copies but the clitic  $lo$  at the end is omitted in the second output copy in accordance with the meaning of the angle bracket notation set forth above.

Consider now the effect of fusing a string of the form  $A[B]C]D$ , as in (6a), with a string of the form  $A[B \langle C \rangle D]$ , as in (6b), into a single input to reduplication, that is, the input  $A[B] \langle C \rangle D$ . With no addition to or alteration of the theoretical apparatus set forth above, the output of such a substring is

$$A - \underline{BC} - \underline{BC} - D = A - C - B - D$$

where B and C have reversed their linear order. This is nothing more and nothing less than simple metathesis. Strikingly, the basic machinery of our theory proposed for simple cases of partial reduplication automatically provides a formal account of metathesis as well.

On the standard understanding of the term, *metathesis* refers to adjacent elements that trade places. Accordingly, our notation encodes metathesis only when the elements delimited by angle brackets are contiguous.<sup>9</sup> A string such as  $A[B] \langle C \rangle D]E$  does not generate the output  $A-DCB-E$  but instead gives  $A-\underline{BCD}-\underline{BCD}-E = A-CD-BC-E$ . We note further that ‘adjacency’ in metathesis need not refer exclusively to the segmental string; for example, in the analysis of Tagalog and Chamorro in Halle 2001, Onset Metathesis involves adjacent onset projections in the syllabic plane.

As the nonce label *VIM* implies, the Spanish case (2a)  $\text{vénda} \bullet lo$ —in which the verb-plural inflection  $-n$  appears not on the verb as dictated by syntax but on the singular clitic—is an instance of metathesis: the  $-n$  and the  $lo$  of the syntactically motivated output  $\text{véndan} \bullet lo$  trade places in the linear order of elements in the morphologically determined output  $\text{vénda} \bullet lo$ . The correspondence between the abstract formal representation above and the actual Spanish form is shown in (9).

$$(9) \quad A [B] \langle C \rangle D \rightarrow A - \underline{BC} - B \underline{C} - D = A - C - B - D \\ \text{vénda } [n \rangle \langle \bullet lo] \rightarrow \text{vénda } - \underline{n} \bullet lo - n \bullet \underline{lo} = \text{vénda} \bullet lo$$

We stress that the following components of reduplication/metathesis, on our view, are all governed by syntactic and/or morphological conditions external to the phonological form of the affected string itself: (a) the fact that a particular string of elements is subject to reduplication/metathesis, (b) the delineation of the affected substring, and (c) the fact that certain elements may be omitted from one or the other copy. Moreover, the junctures that trigger reduplication/metathe-

<sup>9</sup> The extensive collections of examples of metathesis in Baird 2004 and Hume 2004 contain, with one possible exception in Baird, no genuine instances of synchronic rule-governed noncontiguous metathesis.

sis do not appear in the underlying phonological representation of the affected string. This is true of the Spanish material under discussion.

We show in (10) that not any arbitrary instance of the phoneme /n/ participates in Kopy and VIM but only /n/ that realizes [+pl] in verbs.

- |      |                         |                                  |                      |
|------|-------------------------|----------------------------------|----------------------|
| (10) | <i>Input</i>            | <i>Kopy and VIM outputs</i>      |                      |
|      | a. De <u>n</u> •le eso. | De( <u>n</u> )•le <u>n</u> eso.  | ‘Give that to him.’  |
|      | b. Te <u>n</u> •le eso. | *Te( <u>n</u> )•le <u>n</u> eso. | ‘Hold that for him.’ |

In (10a), the /n/ of *den* is the verb-plural marker; the Kopy form *den•len* and the VIM form *de•len* are both possible. In (10b), on the other hand, /n/ is not an inflection but the last segment of the root of the singular imperative *ten* ‘hold’; neither *\*ten•len* (via Kopy) nor *\*te•len* (via VIM) is possible.

Similarly, not just any phoneme sequence that happens to coincide with that of a clitic pronoun can participate in the phenomena under discussion.

- |      |                             |                                       |                      |
|------|-----------------------------|---------------------------------------|----------------------|
| (11) | <i>Input</i>                | <i>Kopy and VIM outputs</i>           |                      |
|      | a. Hága <u>n</u> •lo mejor. | Hága( <u>n</u> )•lo <u>n</u> mejor.   | ‘Do it better.’      |
|      | b. Haga <u>n</u> lo•mejor.  | *Haga( <u>n</u> ) lo <u>n</u> •mejor. | ‘Do the best thing.’ |

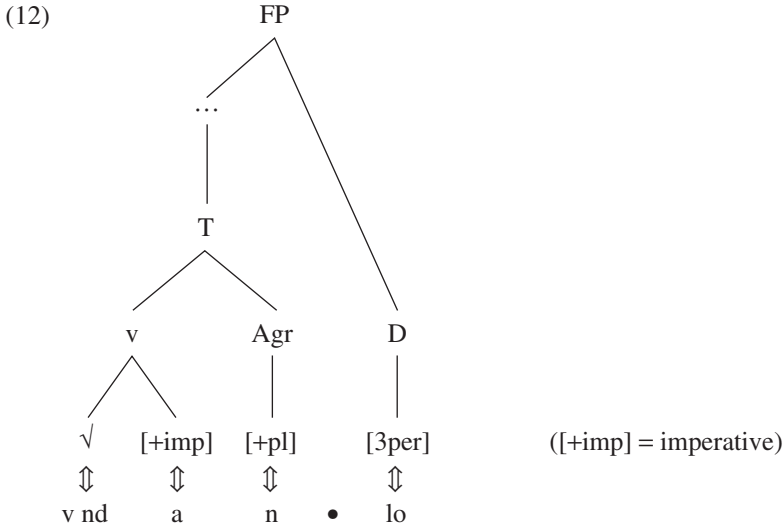
In (11a), *lo* ‘it’ is the clitic object of the verb *hagan* ‘do’. In (11b), the same phonological sequence is not syntactically an object; rather, it is the neuter article *lo* ‘the’, phonologically a proclitic to the adjective *mejor* ‘best’. The two input syntactic sequences can have entirely homophonous realizations in standard (non-Kopy and non-VIM) dialects—namely, [áyanlomexór]—although distinct realizations are possible as well. In any event, (11a) allows Kopy and VIM while (11b) does not.

What we learn from (10) and (11) is that representations of segmental phonology alone do not suffice to delimit the cases in which Kopy and VIM are possible; abstract (i.e., inaudible) identification of constituents is indispensable.

The tree in (12), in which inessential branches have been pruned, illustrates the syntactic hierarchical structure that underlies the elements on which Kopy and VIM operate. We naturally take this structure to be more basic than Kopy and VIM outputs, not because (12) underlies outputs in standard dialects but because the plural suffix *-n* appears only on the verb in (12), which is in fact semantically and syntactically plural. Readers will recognize on the basis of previous examples that the form shown is an imperative verb in Spanish whose (pro-dropped) subject is *ustedes* ‘you-PL’, followed by the third person singular masculine/neuter clitic *lo*, after Vocabulary Insertion.<sup>10</sup>

<sup>10</sup> The linearization of all of the morphemes in (12) is due to general principles; in particular, the position of imperative *-a* and plural *-n* follows from the fact that all inflection in Spanish is suffixal.





Following the standard literature on verbal syntax and cliticization in Spanish,<sup>11</sup> we assume that a verb is formed in the syntax by successive head-to-head movement of the verbal root ( $\sqrt{\quad}$ ) to functional heads c-commanding it (v, T, etc.). The order verb-clitic in (1), (2a,c), (8), (9), (10), (11a), (12), and most subsequent examples is due to raising of the verb to a functional projection that we identify neutrally as FP. We assume that nominal clitics are bare determiners. Cliticization itself involves adjunction of clitics to FP. Following Marantz (1992), we assume that after Spell-Out, in the Morphology, subject Agr is adjoined to T.<sup>12</sup>

As (10) and (11) suggest, the identification of elements to be repeated or moved in Kopy and VIM—formally, the placement of a pair of square brackets around the affected elements—involves not simply phonological sequences such as /nle/ and /nlo/ but rather morphologically specified configurations such as [n]<sub>Agr</sub> and [IV]<sub>D</sub>. Recall from (3) and (5) that reduplication need not involve phonological/prosodic constituents. By the same token, such sequences need not be, and in (12) in fact are not, syntactic and/or morphological constituents.

In accordance with all of the above, we may formulate the readjustment rule for insertion of square brackets in the cases at hand as in (13), as a first approximation.

- (13) In a string of the form  $X/n_{Agr} \bullet /Cl/DY$   
 insert: [ to the immediate left of /n<sub>Agr</sub>  
           ] to the immediate right of /Cl<sub>D</sub>

<sup>11</sup> For example, Alcoba 1991, Ambadiang 1993, Anderson 1993, Berendsen 1986, Calabrese 1995, Harris 1994a, 1995, Kayne 1991, Klavans 1985, 1995, Laka 1990, Marantz 1989, Oltra-Massuet and Arregi 2005, Rivero and Terzi 1995, Romero 1996, Strozer 1976, Suñer 1988, Uriagereka 1995, Zwicky 1985, Zwicky and Pullum 1983.

<sup>12</sup> The details of these formulations are not crucial to the present discussion, and we expect that our proposals will be able to accommodate revisions required by continuing work in syntax.

$/Cl/D$  in (13) is a variable for the sets of clitics allowed to participate in Kopy and VIM in various dialects, a topic we return to in section 2.1. The inclusion of angle brackets inside square brackets—that is, whether Kopy or VIM or both are available to particular speakers—is also discussed at several points below. From an input such as *véndan•lo*, the readjustment rule (13) produces the intermediate representations *vénda[n(•lo)]* (Kopy) and *vénda[n](•lo)* (VIM) when supplied with the necessary dialect-by-dialect placement of angle brackets. These representations ultimately yield the outputs *véndan•lon* (8) and *vénda•lon* (9) as desired.

The formal devices we propose succeed in integrating not only the general phenomena of reduplication and metathesis but also two curious idiosyncratic phenomena of Spanish dialects. This is surely a welcome result in itself, and it also provides support for the formal notation proposed. Our theory is further explained and illustrated in the following sections.

## 2 Kopy and VIM: Further Details

At this point, readers who do not know Spanish may appreciate some background information on the system of pronominal clitics in Spanish. Although dialect variation abounds, the forms used by the majority of speakers are shown in table 1.

As shown in (14), both Kopy and VIM occur freely in affirmative imperatives, where clitics follow the verb, but never in negative imperatives, where clitics must precede the verb.

**Table 1**  
Spanish pronominal clitics

Singular	Plural	
me	nos	1st person (dat/acc/refl/masc/fem)
te	—	2nd person (dat/acc/refl/masc/fem) <sup>a</sup>
		3rd person
le	les	dative (masc/fem) <sup>b</sup>
lo	los	accusative masculine <sup>c</sup>
la	las	accusative feminine <sup>d</sup>
se	se (*ses)	reflexive, “spurious,” etc. <sup>e</sup>

<sup>a</sup> Some speakers, whom we will disregard henceforth, use *os* for second person plural. For most Spanish speakers, however, second person plural morphology simply does not exist at all: all vocabulary items (nominative pronouns, possessives, agreement morphemes on verbs, pronominal clitics, etc.) that mean ‘YOU-PL’ are formally third person.

<sup>b</sup> *Le(s)* can be used as accusative for special pragmatic and stylistic effects (deference, formality, etc.) by speakers who otherwise systematically use *lo(s)/la(s)* as accusative.

<sup>c</sup> So-called *leísta* dialects use *le* and *les* for human masculine accusative as well as for dative.

<sup>d</sup> So-called *latísta* dialects use *la(s)* for feminine dative as well as for accusative.

<sup>e</sup> *Spurious se* refers to the obligatory replacement of dative *le(s)* by *se* in clitic clusters. For example, *Le•di el libro* ‘I gave him<sub>i</sub> the book’ but *Se•lo•di* ‘I gave it<sub>i</sub> to him<sub>i</sub>’. The basic reference for spurious *se* is Perlmutter 1971, with technical updating in Harris 1995.

- |                         |                     |                       |
|-------------------------|---------------------|-----------------------|
| (14) <i>Affirmative</i> | <i>Negative</i>     |                       |
| Váya(n)•sen.            | No se/*sen•vaya(n). | ‘(Don’t) go away.’    |
| Súba(n)•len.            | No le/*len•suba(n). | ‘(Don’t) come on up.’ |
| Hága(n)•lon.            | No lo/*lon•haga(n). | ‘(Don’t) do it.’      |

This striking difference between affirmative and negative imperatives with respect to Kopy and VIM follows from the fact that both full and partial reduplication, and hence metathesis, affect only contiguous strings. Inflectional *-n* and clitics are contiguous in affirmative but not in negative imperatives, where they are separated by the verb stem.

A curious set of data is illustrated in (15).

- |                   |                             |                       |
|-------------------|-----------------------------|-----------------------|
| (15) <i>Input</i> | <i>Kopy and VIM outputs</i> |                       |
| a. sírva(n)•me    | sírva(n)•men                | ‘serve-PL me’         |
| b. sírva(n)•se    | sírva(n)•sen                | ‘serve-PL yourselves’ |
| c. sírva(n)•les   | sírva(n)•les                | ‘serve-PL them-DAT’   |
|                   | *sírva(n)•len               |                       |
|                   | *sírva•les                  |                       |
| d. sírva(n)•los   | sírva(n)•los                | ‘serve-PL them-ACC’   |
|                   | *sírva(n)•lon               |                       |
|                   | *sírva•los                  |                       |

The Kopy and VIM outputs *sírva(n)•men* and *sírva(n)•sen* in (15a) and (15b) are the expected ones. But (15c) and (15d) present a surprise: Kopy and VIM seem to be blocked in these cases. Why? The reason cannot be that Kopy and VIM are incompatible with a semantically and syntactically plural clitic: *se* in (15b) is semantically and syntactically plural, yet Kopy and VIM are allowed in this case. The correct generalization is that a *phonologically instantiated* plural suffix (always default *-s*) on the clitic blocks Kopy and VIM. But why should that be?<sup>13</sup>

As shown in (1b), (2c), and elsewhere, the normal plural of *se* is *se*, with no overt affix; plurality is regularly realized as *-s* in all other clitics. Only in Kopy and VIM environments does a suffix—namely, verbal *-n*—appear on *se*, which therefore surfaces as *sen* in these environments. In (16), we show the basis for the contrast between (15b) and (15c–d). For typographic simplicity, only Kopy forms are illustrated; VIM forms are entirely analogous.

- |   |         |
|---|---------|
| (16) sírva[n⟨•se⟩] → sírva -n•se - n•se = sírva•sen   | (15b)   |
| sírva[n⟨•IVs⟩] → sírva -n•IVs - n•IVs = *sírva•IVsn   | (15c–d) |
| sírva[n⟨•IV⟩s] → sírva -n•IV - n•IV - s = *sírva•IVns | (15c–d) |

The (15b) case is not problematic in any way. On the other hand, the two outputs *\*sírva(n)•IVsn* and *\*sírva(n)•IVns* for (15c–d) are disallowed for phonological reasons: both /sn/ and /ns/ are

<sup>13</sup> Since *me* has no plural suffix at all, it is dropped from discussion at this point.

impermissible syllable codas in word-final position in Spanish.<sup>14</sup> In short, nothing must be added to our formal account of partial reduplication/metathesis to account for cases (15c–d): the ill-formed examples are ruled out by independent phonological constraints. In the absence of well-formed Kopy and VIM outputs for the corresponding well-formed syntactic structures, speakers naturally fall back on the nonreduplicated and nonmetathesized versions *sírvanoles* and *sírvanolos*, which contain only forms that speakers use regularly in other contexts.

### 2.1 Clitic Clusters

Up to this point, we have considered only cases that involve a single clitic. However, sequences of two clitics are perfectly normal in Spanish. Given syntactic restrictions and constraints on clitic sequencing, the two-clitic clusters that can follow a plural imperative are *me*, *se*, or *nos* in first position and *lo(s)*, *la(s)*, or (marginally) *le(s)* in second position.<sup>15</sup>

In Kopy and VIM dialects, the *-n* suffix can surface on either clitic in a cluster of two as shown in (17a–b). In Kopy dialects, plural *-n* can also surface on the verb and both clitics simultaneously (17c). This last option is of course not available in VIM dialects.

- (17) a. Dé(n)•men•lo. ‘Give it to me.’  
 b. Dé(n)•me•lon. (same)  
 c. Dén•men•lon. (same)

While all of the variants in (17) are acceptable to some speakers, not all combinations of variants are allowed in a single dialect. We return to this issue in section 2.2.

Under our proposals, the variant *dé(n)•men•lo* (17a) is produced straightforwardly as illustrated in (18), where a left square bracket is inserted before affixal *-n* and a right square bracket is inserted after the following clitic in accordance with rule (13).

- (18)  $dé[n\langle \bullet me \rangle \bullet lo \rightarrow dé-n \bullet me-n \bullet me \bullet lo = dén \bullet men \bullet lo$  (Kopy)  
 $dé[n] \langle \bullet me \rangle \bullet lo \rightarrow dé-n \bullet me-n \bullet me \bullet lo = dé \bullet men \bullet lo$  (VIM)

In *dé(n)•me•lon* (17b), Kopy and VIM skip over the first clitic. This result is readily derived by assuming that, as roughly illustrated in (19), the two clitics are united in a single constituent by string-vacuous rebracketing (Marantz 1988) prior to the application of rule (13). This results essentially in the copying of the *-n* suffix onto the two-clitic unit [*me + lo*].

<sup>14</sup> Word-final /sn/ is unconditionally impossible and irreparable. Word-final /ns/ is acceptable only in the plural of foreign words such as *yens* ‘yens’ (further details are available in Harris 1999). Two reviewers have asked why phonological epenthesis and/or deletion, known to exist in Spanish, are not employed to rescue clitics of the form \**IVsn* and \**IVns*. Spanish employs epenthesis (of /e/) in two contexts: in word-internal *CrC* (e.g., *patr* + *icidio* ‘patricide’ but *pater* + *no* ‘paternal’) and word-initially before *s + C* (e.g., *checoslovaco* ‘Czechoslovak’ but *eslovaco* ‘Slovak’). Syllable structure constraints produce the effect of deletion in cases such as *esculpir* ‘to sculpt’ but *esculptura* ‘sculpture’, where *lp* is not a permissible coda and *pt* is not a possible onset. Other apparent cases of epenthesis and deletion occur only in special morphological situations. In short, the conditions for the bona fide phonological epenthesis and deletion processes of Spanish are not met in the clitic case at issue.

<sup>15</sup> See the discussion of (37) and (38) regarding potential interaction of Kopy and VIM with the (2c) effect. We have not investigated either Kopy or VIM in three-clitic clusters, which are possible but marginal for most speakers.

(19)  $\text{dén}_{\text{Agr}} \bullet \text{me}_{\text{D}} \bullet \text{lo}_{\text{D}}$  (input)  
 $\bullet \text{me} + \text{lo}_{\text{D}}$  (string -vacuous rebracketing)

(Kopy)

$\text{dé}[\text{n}_{\text{Agr}}] \langle \bullet \text{me} + \text{lo}_{\text{D}} \rangle$  (13)

$\text{dé} - \text{n} \bullet \text{me} + \text{lo} - \text{n} \bullet \text{me} + \text{lo} = \text{dén} \bullet \text{me} + \text{lon}$  (output)

(VIM)

$\text{dé}[\text{n}_{\text{Agr}}] \langle \bullet \text{me} + \text{lo}_{\text{D}} \rangle$  (13)

$\text{dé} - \text{n} \bullet \text{me} + \text{lo} - \text{n} \bullet \text{me} + \text{lo} = \text{dé} \bullet \text{me} + \text{lon}$  (output)

For Kopy dialects, the third variant  $\text{dén} \bullet \text{men} \bullet \text{lon}$  (17c) can be derived by combining our formalism with the independently motivated principle of (strict) cyclicity. This is shown in (20), where the first line of the derivation employs curly brackets (in lieu of the square brackets preempted by our notation) to indicate the relevant syntactic constituent structure.<sup>16</sup>

(20)  $\{\{\text{dén} \bullet \text{me}\} \bullet \text{lo}\}$  (syntactic constituent structure)  
 $\text{dén} \bullet \text{me}$  (input to first cycle)  
 $\text{dé}[\text{n} \langle \bullet \text{me} \rangle]$  (13)  
 $\text{dé} - \text{n} \bullet \text{me} - \text{n} \bullet \text{me} = \text{dén} \bullet \text{men}$  (output)

$\text{dén} \bullet \text{men} \bullet \text{lo}$  (input to second cycle)  
 $\text{dén} \bullet \text{me}[\text{n} \langle \bullet \text{lo} \rangle]$  (13)  
 $\text{dén} \bullet \text{me} - \text{n} \bullet \text{lo} - \text{n} \bullet \text{lo} = \text{dén} \bullet \text{men} \bullet \text{lon}$  (final output)

In sum, all of the logically possible Kopy and VIM variants illustrated in (17) can be accounted for with no addition to or alteration of our basic formalism when the latter is employed in conjunction with the well-established mechanisms of rebracketing and cyclicity.<sup>17</sup>

It was noted in (15) and (16) that Kopy and VIM are blocked when a phonologically instantiated plural suffix (always default *-s*) appears on a clitic following plural *-n*. We illustrate in (21) that a similar generalization holds when two clitics follow a plural verb: *-n* can appear on the first of two clitics but not on the second if the latter bears a plural suffix in the input.

<sup>16</sup> We have assumed this structure all along, but have suppressed it until this point in order not to needlessly overburden exposition and examples. In particular, a fully detailed account of (18) would include the fact that rule (13) applies on the first but not the second cycle of  $\{\{\text{dén} \bullet \text{me}\} \bullet \text{lo}\}$ .

<sup>17</sup> Google turned up a site ([www.geocities.com/jorielylizano/COSTARICA.html](http://www.geocities.com/jorielylizano/COSTARICA.html)) with the example  $\text{diga} \bullet \text{men} \bullet \text{lon}$ . In its context, this form unmistakably means 'tell-PL it to me', where both clitics are semantically and syntactically singular. However,  $\text{diga} \bullet \text{men} \bullet \text{lon}$  is neither a Kopy form (because *-n* does not appear on the plural imperative verb stem *diga*) nor a VIM form (because there are two instances of suffixal *-n*). Thus,  $\text{diga} \bullet \text{men} \bullet \text{lon}$  cannot be derived via the proposals made in the foregoing sections. It could be, however, that this hybrid example is a typographical error, hence not a counterexample to our proposals. We have seen no such case in the literature, no Spanish speaker we have consulted confirms it, and it is the only hit of its kind that Google has offered. Moreover, this web site has other words that are clearly misspelled. We have not been able to contact the author for clarification; we therefore report this case as a heads-up to future investigators.



**Table 2**

Logically possible combinations of Kopy forms

	Attested		Unattested				
	K1	K2	K3	K4	K5	K6	K7
dén•men•lo	✓	✓	✓	✓	*	*	*
dén•me•lon	✓	✓	*	*	*	✓	✓
dén•men•lon	✓	*	✓	*	✓	*	✓

b. *VIM2: no rebracketing*

\*vénda•me•lon (rebracketing) (19)

vénda•men•lo (no rebracketing) (18)

c. *VIM-U: rebracketing obligatory*

vénda•me•lon (rebracketing) (19)

\*vénda•men•lo (no rebracketing) (18)

We conclude from (23) that there are dialects that allow rebracketing (VIM1) and dialects that do not (VIM2). Among those that do, rebracketing is optional (VIM1); but there are no dialects in which rebracketing is obligatory (VIM-U).

The corresponding facts for Kopy dialects are similar but more complicated since all three configurations in (17) occur in one Kopy dialect or another. Thus, the number of logically possible combinations in a single Kopy dialect is seven ( $2^3 - 1$ ), as shown in table 2.<sup>18</sup> Dialects in which each combination is attested or not are labeled K1, K2, and so on. A check mark (✓) means that a form is acceptable in a particular dialect and an asterisk (\*) means that a form is not acceptable.

Dialect K1 allows all three Kopy forms *dén•men•lo*, *dén•me•lon*, and *dén•men•lon*, in more or less free variation. Dialect K2 allows *dén•men•lo* and *dén•me•lon* as free variants, but not *dén•men•lon*. Hypothetical dialect K3 allows *dén•me•lon* and *dén•men•lon* but not *dén•men•lo*, and so on. Dialects K1 and K2 undoubtedly exist; one of us (JH) knows native speakers of these dialects personally. As in the case of VIM1 and VIM2, firm statistics do not exist but our impression is that K1 and K2 do not differ significantly in number of speakers. These clearly attested dialects can be characterized as shown in (24).

(24) a. *K1: optional rebracketing, optional reapplication of Kopy on second cycle*

dén•me•lon (rebracketing, Kopy) (19)

dén•men•lo (no rebracketing, one Kopy) (18)

dén•men•lon (no rebracketing, two Kopy) (20)

<sup>18</sup> The eighth logical possibility, three asterisks, is not shown in table 2 since it is not a Kopy dialect.

- b. *K2: optional rebracketing, reapplication of Kopy on second cycle disallowed*
- |                      |                               |      |
|----------------------|-------------------------------|------|
| <u>dén•me•lon</u>    | (rebracketing, Kopy)          | (19) |
| * <u>dén•men•lo</u>  | (no rebracketing, one Kopy)   | (18) |
| * <u>dén•men•lon</u> | (no rebracketing, *two Kopys) | (20) |

Dialect K7 is absolutely unattested both in our experience and in the literature. There is reason to believe that it is impossible in principle. Such a dialect would have to have optional rebracketing in order to allow both dén•me•lon (with rebracketing followed by Kopy as in (19)) and dén•men•lon (without rebracketing but with cyclic reapplication of Kopy as in (20)). But if application of Kopy on the cycle containing *me* is allowed in order to produce well-formed dén•men•lon, then its application in the same cycle cannot straightforwardly be blocked in the derivation of disallowed dén•men•lo. Evidently, then, hypothetical dialect K7 entails an internal contradiction that is barred, we surmise, in the grammars of natural languages; if so, dialect K7 is unattested because it is outside the domain of natural language.

Unattested dialects K3 through K6 remain. We are unaware of positive evidence for the existence of any speaker of any of them, but we obviously cannot guarantee that no such speaker lives or has ever lived. However, it would be natural to conjecture that the conclusion we have drawn from (23) regarding VIM dialects holds for Kopy dialects as well: namely, that a given dialect may or may not have rebracketing, but if it is present, rebracketing is always optional, never obligatory. Empirically testable predictions follow from this conjecture: K3, K4, and K5 are predicted to be possible in principle as dialects without rebracketing since dén•me•lon (ungrammatical in these dialects) will correctly be disallowed if these dialects do not have rebracketing. On the other hand, K6 is predicted to be impossible since rebracketing—which seems never to be obligatory—is required to prevent dén•men•lo (ungrammatical in this dialect). In the absence of the relevant data at present, we must withhold judgment on whether or not our conjecture is correct.

### 2.3 A Hierarchy of Clitics

Both traditional studies and our own contacts with native speakers reveal the ranking shown in (25) with respect to the clitics that participate in VIM in a given dialect.<sup>19</sup>

- (25) a. *se*  
 b. *se, me*  
 c. *se, me, le*  
 d. *se, me, le, lo, la*

Shown here are *sets* (not *sequences*) of individual clitics to which the verb suffix *-n* may be attached in a particular dialect. So far as we know, all VIM dialects adhere to (25). That is, *se*

<sup>19</sup> We strongly suspect that the same facts hold for Kopy dialects as well, but we cannot assert with full confidence that this is true.



is the only clitic some speakers permit to host verbal *-n* (25a), while other speakers allow *men* in addition to *sen* (25b), and still others allow *len* as well as *sen* and *men* (25c). The most liberal speakers include *lon* and *lan* along with all of the above (25d). In other words, speakers apparently never tolerate *men* if they do not allow *sen*, do not accept *len* without *sen* and *men*, and so on.

This is an astonishing fact, one for which we must seek an explanation: we must discover how the internal grammar of a given speaker distinguishes the set  $\{se, me\}$  from  $\{se, me, le\}$  and so on. At this point, another look at table 1 can help us to identify the generalizations that underlie the selection and grouping of clitics in (25). It strikes the eye immediately that no clitic in (25) has an overt plural suffix, although *se* can be plural semantically and syntactically. Also, alone among the singular clitics, second person *te* does not appear in (25). This follows from semantic and/or syntactic restrictions whereby *te* cannot cooccur with a plural imperative. For example, *\*Protéjan•te* ‘Protect-PL yourself-SG’ and *\*Míren•te* ‘Look-PL at yourself-SG’ are just as unacceptable in Spanish as in English, and for the same reason.

We are left with the remaining singular clitics plus *se* in (25), where the extreme cases are the simplest. Dialects of type (25a), which allow VIM only with *se*, require formal specification of just that clitic in readjustment rule (13). At the other extreme, the most liberal (25d)-type dialects place no special condition on the clitics that participate in VIM (and presumably Kopy).

It is not obvious how to formally characterize the intermediate sets (25b) and (25c) so that they can be distinguished from each other and from (25a) and (25d). One might appeal directly to properties of case, gender, number, and person. Though plausible, this appeal fails. Case fails because both  $\{se, me\}$  (25b) and  $\{se, me, le\}$  (25c) exclude accusative *lo* and *la*; but all of *se*, *me*, and *le* are or can be dative. Therefore, case does not distinguish between (25b) and (25c). Gender fails because *se*, *me*, and *le* are all gender-neutral; therefore, gender does not separate (25b) from (25c) either. Number fails because all the clitics in question are or can be singular. Person fails because both  $\{se, me\}$  (25b) and  $\{se, me, le\}$  (25c) mix first person (*me*) and third person (*se*, *le*); therefore, person, alone or together with case and gender, also does not make the necessary separations.

There are at least two approaches that do make the grammatically determined distinctions that we seek. First, we consider syncretism, that is, surface neutralization of syntactically motivated contrasts.<sup>20</sup> Review of table 1 reveals that number, case, and gender distinctions in Spanish clitics are neutralized as shown in (26).

(26) Clitic	Properties neutralized/not specified
<i>se</i>	number, case, gender
<i>me</i>	case, gender—but not number (cf. <i>nos</i> )
<i>le</i>	gender—but not number (cf. <i>les</i> ) or case (cf. <i>lo</i> and <i>la</i> )
<i>lo</i>	fully specified for number (vs. <i>los</i> ), case (vs. <i>le</i> ), gender (vs. <i>la</i> )
<i>la</i>	fully specified for number (vs. <i>las</i> ), case (vs. <i>le</i> ), gender (vs. <i>lo</i> )

<sup>20</sup> Considerations of syncretism have figured in analyses of Spanish clitics before (e.g., Harris 1994a, 1995). We thank Andrew Nevins for drawing our attention to its relevance in the present context.

The claim associated with (26) is that the order of appearance of clitics in (25) is correlated with the degree of neutralization or lack of specification for number, case, and gender; speakers are increasingly permissive with respect to the degree of specification allowed on targets of readjustment rule (13). Thus, *se*, with all three properties number, case, and gender neutralized/unspecified, permits application of (13) in all VIM (and presumably Kopy) dialects. Accordingly, *se* appears alone in (25a). The set {*se*, *me*} follows in (25b) with two neutralized properties, case and gender but not number. Next in line is {*se*, *me*, *le*} (25c), with only one noncontrastive property, gender, shared by all members. Finally, no noncontrastive property is shared by all members of {*se*, *me*, *le*, *lo*, *la*} (25d).

An alternative approach to (25) does not take into account the syntactic properties of clitics but refers instead to morphological and phonological information contained in vocabulary entries. The basic observation is that the final vowel /e/ in *se*, *me*, and *le* is the “theme vowel” or “class marker” of the declensional class conventionally identified as “class III” in Spanish (Harris 1985, 1999 and references therein). Not all class III markers, however, have the same source. As indicated in (27), the form class of Spanish clitics is unpredictable and lexically idiosyncratic in the case of *se* and *me*; on the other hand, dative case predictably assigns class III to *le*. By the same token, in the absence of dative marking, gender assigns class II to accusative *la* and class I to accusative *lo*.

(27) <i>se</i> , <i>me</i>	(III)	unpredictable (case-neutral)
<i>le</i>	(III)	predictable from dative case
<i>la</i>	(II)	accusative/feminine
<i>lo</i>	(I)	accusative/masculine (default)

In short, the form class of Spanish clitics is sometimes predictable, sometimes not. It is straightforward to posit simple redundancy rules as suggested in (28) that provide the predictable form-class assignments for *le*, *la*, and *lo*.

(28) class III / [____, dative]	( <i>le</i> )
II / [____, feminine]	( <i>la</i> )
I / (default)	( <i>lo</i> )

The information in (27) and (28) provides a way to distinguish (25b) from (25c), and these two cases from (25d). In (25b)-type dialects, nonredundant lexical specification for class III picks out just *se* and *me* as the clitics targeted by readjustment rule (13). Thus, the right outputs result if (13) applies before the first redundancy rule in (28) supplies *le* with its specification for class III. In (25c)-type dialects, on the other hand, the right outputs result if the redundancy rule applies before (13), which then cannot distinguish *le* from *se* and *me* with respect to class specification.

We are not sure how to judge the relative merits of the syncretism approach versus the form-class approach to (25). The choice might depend on presently unavailable data—for example, whether or not VIM (and Kopy?) dialect speakers systematically distinguish between syntactically

dative *le* and special syntactically accusative *le* (see notes a and b of table 1) or between dative *le* and dative *la* in *laísta* dialects (see note c of table 1). In the absence of pertinent data and a strong argument one way or the other, we prefer to refrain from speculation and thus leave the issue unresolved, especially since it is peripheral to our central concerns.

#### 2.4 Participles and Infinitives with Clitics

To round out our coverage of data, we present the examples in (29), which illustrate repetition of suffixal *-n* on clitics attached to present participles (e.g., *besando*, often called gerunds) and infinitives (e.g., *ver*), while this *-n* remains intact on the main verb.<sup>21</sup>

- (29) a. Están besando•sen.  
           ‘They’re kissing each other.’  
       b. Quieren ver•men.  
           ‘They want to see me.’

Such forms can be derived as illustrated in (30).

- (30) a. está[n ⟨ besando • se ⟩] → está - n besando • se - n **besando • se**  
           = están besando • sen  
       b. quiere[n ⟨ ver • me ⟩] → quiere - n ver • me - n **ver • me**  
           = quieren ver • men

Such examples are noteworthy for two related reasons. First, although our general formalism can derive these cases straightforwardly, Spanish-particular rule (13) itself cannot produce the inputs for the partial reduplication shown in (29) and (30). This is because (13) applies to a sequence in which [n]<sub>AGR</sub> is directly followed by a clitic while in (29) and (30) a participle or an infinitive intervenes in this sequence.

Second, infinitives and present participles are never overtly inflected in any way in Spanish. For example, *Están comiendo* ‘They’re eating’ and *Queremos comer* ‘We want to eat’ are grammatical while *\*Están comiendon* and *\*Queremos comermos* are not. This means that the syntactic location of the source of plurality on the clitics in (29)–(30) is mysterious. Postulation of a [+pl] morpheme on present participles and infinitives solely to permit application of rule (13) in the cases at hand would be completely ad hoc since there is no independent evidence for this morpheme in this position.

In any event, it is far from clear that the phenomena shown in (29)–(30) are the same as the varieties of Kopy illustrated in previous sections. For example, there are speakers who exhibit the effects shown in (29)–(30) but do not allow the varieties of Kopy that have been the focus of our discussion. Indeed, it is not known that familiar Kopy and the (29)–(30) phenomena occur

<sup>21</sup> There are no VIM counterparts to the forms in (29); for example, *\*Está∅ besando•sen* and *\*Quiere∅ ver•sen* are ungrammatical for all speakers.

together in *any* dialect of Spanish. We thus leave two issues open for future research: (a) what syntactic structures underlie examples such as those in (29)–(30); (b) what formal relationship, if any, is shared by (29)–(30) and the primary Kopy phenomena discussed in previous sections.

### 2.5 *Derived Constituent Structure*

There is another question that we must leave open: what is the effect of Kopy and VIM on syntactic hierarchical structures such as (12)? Two facts prevent us from answering this question with confidence. First, there is no consensus among our syntactic sources (see footnotes 11 and 12) regarding structures similar to (12) but with multiple clitics. Second, under our proposals the operations involved in Kopy and VIM take place in the Morphology following all strictly syntactic computations (see figure 1). Hence, it is difficult to envision subsequent operations on hierarchical structure that depend crucially on the output of Kopy and/or VIM in a way that would provide evidence regarding the exact hierarchical structure of this output representation. Also, as pointed out in footnote 5, operations in the Morphology in principle can have no effect on LF.

### 3 A Glance at (2b) and (2c)

The *se•los* (2b) and *no•los* (2c) phenomena have been studied in detail elsewhere.<sup>22</sup> Here we comment briefly on a few points relevant to the foregoing discussion.

*No•los* speakers are a proper subset of *se•los* speakers; that is, all *no•los* speakers are also *se•los* speakers but not all *se•los* speakers are also *no•los* speakers. For the majority of Spanish speakers in the world, *nos* and *se* are the only plural clitics that can be followed by an accusative clitic (see note a of table 1). Thus, the generalization of *se•los* to include *no•los* as well is just the elimination of a restriction to third person. We therefore expect that conclusions regarding the *se•los* phenomenon should carry over to the *no•los* phenomenon with the possible exception of differences due to specific properties of the clitics *se* and *nos* themselves.

An interesting quirk of the *se•los* effect (2b) is illustrated in (31).

- (31) a. Ese vino<sub>i</sub> yo se<sub>j</sub>•lo<sub>s</sub>•regalé a mis primos<sub>j</sub>.  
 that wine I to-them•it•I-gave to my cousins  
 ‘That wine<sub>i</sub> I gave to my cousins<sub>j</sub>.’
- b. Ese vino<sub>i</sub> se<sub>j</sub>•lo<sub>i</sub>/\*lo<sub>s</sub>•regalaron mis primos<sub>j</sub>.  
 that wine to-each-other•it•they-gave my cousins  
 ‘That wine<sub>i</sub> my cousins<sub>j</sub> gave to each other<sub>j</sub>.’

The (2b) effect is available only when *se* is the “spurious *se*” illustrated in (31a) (see note e of table 1). It is not available when *se* is “genuine,” that is, the basic third person reflexive or

<sup>22</sup> See, for example, Bonet 1991, Grimshaw 1997, Harris 1994a,b, 1995, 1996, Kany 1951, Menéndez Pidal 1962, Minkoff 1994, Rosenblat 1946.

reciprocal clitic.<sup>23</sup> This contrast is general among Spanish speakers: we have encountered no one who accepts both the (31a) and the (31b) configurations with *los*.

On the other hand, the analogous situation with *no•los* (2c) is unclear, as illustrated in (32).

- (32) a. Ese vino<sub>i</sub> no<sub>j</sub>•los<sub>i</sub>•regalaron a nosotros<sub>j</sub>.  
 that wine to-us•it•they-gave to us  
 ‘That wine<sub>i</sub> they gave to us<sub>j</sub>.’
- b. ?Ese vino<sub>i</sub> no<sub>j</sub>•los<sub>i</sub>•regalamos a nosotros mismos<sub>j</sub>.  
 that wine to-ourselves•it•we-gave to us ourselves  
 ‘That wine<sub>i</sub> we gave to ourselves<sub>j</sub>.’

The “?” in (32b) indicates that some speakers who accept (32a) also accept (32b) while others do not. Thus, (32) is not entirely parallel to (31). In view of the expectation just mentioned that such differences are due to properties specific to *se* and *nos* individually, we speculate that the nonparallelism of (31) and (32) is related to the fact that there are both “genuine” and “spurious” varieties of *se* but no such thing as a “spurious *nos*”; that is, *nos* never replaces another clitic, as does *se*. Determining the precise basis for the contrast between (31) and (32) strikes us as an important matter, but we have nothing further to contribute in this regard. We call attention to the issue in the hope that syntacticians and/or morphologists will enlighten us in the future.

Now, setting these problems aside, we ask what morphological mechanisms are involved in the (2b) and (2c) phenomena.<sup>24</sup> We demonstrate in (33) that the *se•los* effect cannot be simply a minor variant of Kopy.

- (33)  $se \emptyset_{pl} \bullet lo$  (input)  
 $se [\emptyset_{pl} \langle \bullet lo \rangle]$  (Kopy)  
 $se - \emptyset_{pl} \bullet lo - \emptyset_{pl} \bullet lo = *se \bullet lo$  (output)

The incorrect output is produced because [+pl] is realized as zero as the sister of *se*, and this zero surfaces on *lo* in the output of Kopy, where default *-s* is required.

Nor can *se•los* be the output of a minor variant of VIM, as shown in (34).

- (34)  $se \emptyset_{pl} \bullet lo$  (input)  
 $se [\emptyset_{pl}] \langle \bullet lo \rangle$  (VIM)  
 $se - \emptyset_{pl} \bullet lo - \emptyset_{pl} \bullet lo = *se \bullet lo$  (output)

<sup>23</sup> The contrast in (31) between “genuine” and “spurious” *se* undercuts the quasi-functional view expressed in Grimshaw 1997 and elsewhere, namely, that number “floats” rightward in the *se•los* case precisely in order to allow overt expression of [+pl], which is not possible with [+pl] attached to *se*. Why doesn’t this hold equally for the two kinds of *se*, both of which overtly express [+pl] as zero? The *no•los* case cannot be understood in these terms either since the putative need for expression of [+pl] is already met—in the expected position—in *nos•lo*. Finally, in Kopy forms such as *dén•sen•lon*, this supposed need is wildly overmet.

<sup>24</sup> It is intriguing that (2b) and (2c) bear a striking formal resemblance to the venerable notion “affix hopping” (Chomsky 1957), a particular case of which can be formulated in our notation essentially as, say, [Past]⟨have⟩ + [-EN]⟨V⟩, linearized as *have-Past* + *eat-EN* = *had eaten*, for example, upon Vocabulary Insertion.

The problem with (33) and (34) is essentially that the plural of *se* is *se*∅. This suggests an alternative: move the [+pl] of *se* away from *se* and onto *lo* before Vocabulary Insertion, whereupon [+pl] can be realized as /s/ as desired. But this alternative also casts the account in progress out of the frying pan into the fire, as we show in (35).

$$(35) \{ \$E_D \hat{ } Pl_{Num} \} \hat{ } \{ LO_D \hat{ } Sg_{Num} \}$$

The unconventional notation in (35) and in (36) below requires comment. Because square brackets are employed otherwise, curly brackets indicate the syntactic constituent structure of the relevant feature bundles before Vocabulary Insertion. As a reminder that only spurious *se* is involved in the process under discussion, we write  $\$E$  instead of  $SE$  as the abbreviation for the features eventually realized as *se*. The conventional concatenation symbol “ $\hat{}$ ” indicates structural adjacency without linear order. The rest of the notation in (35)–(36) should be obvious.

Now, linear order is determined only upon Vocabulary Insertion; therefore, the feature bundles in (35) lack linear order. Consequently, this alternative is a dead end for variants of Kopy or VIM on our treatment: our notation involving square and angle brackets inherently depends on linear order and thus has no meaning on unordered representations. Thus, Kopy and VIM must operate after Vocabulary Insertion, on linearly ordered strings. To make the point graphically, we note that all of the representations in (36) are equivalent to (35).

$$(36) \{ Pl_{Num} \hat{ } \$E_D \} \hat{ } \{ LO_D \hat{ } Sg_{Num} \}$$

$$\{ \$E_D \hat{ } Pl_{Num} \} \hat{ } \{ Sg_{Num} \hat{ } LO_D \}$$

$$\{ \$E_D \hat{ } Pl_{Num} \} \hat{ } \{ LO_D \hat{ } Sg_{Num} \}$$

$$\{ LO_D \hat{ } Sg_{Num} \} \hat{ } \{ \$E_D \hat{ } Pl_{Num} \}$$

$$\{ Sg_{Num} \hat{ } LO_D \} \hat{ } \{ \$E_D \hat{ } Pl_{Num} \}$$

$$\{ LO_D \hat{ } Sg_{Num} \} \hat{ } \{ Pl_{Num} \hat{ } \$E_D \}$$

$$\{ Sg_{Num} \hat{ } LO_D \} \hat{ } \{ Pl_{Num} \hat{ } \$E_D \}$$

In sum, it is theoretically incoherent to couple such structures with our formal mechanisms involving square and angle brackets, which inherently refer to linear order.

The conclusion we draw is that Kopy and VIM on the one hand and (2b)/(2c) on the other hand are formally unrelated morphological phenomena.<sup>25</sup> The reasons given above for this unrelatedness are theory-internal, but independent empirical reasons exist as well. As pointed out above and illustrated in (2), (31), and (32), the *se*•*los* and *no*•*los* effects are not restricted to postverbal position as are VIM and Kopy. Moreover, the distinction illustrated in (31) between spurious and nonspurious *se* has no parallel in Kopy or VIM, which treat all varieties of *se* identically. Also, the effects at issue are not generally shared by Spanish speakers and belong to quite different social and stylistic registers. For example, in central Mexico the *se*•*los* effect is acceptable even

<sup>25</sup> Incidentally, to our knowledge no one has ever claimed the contrary, that is, that all of the phenomena under discussion are due to the same formal operations.

in the edited prose of prestigious writers while Kopy and VIM are limited to the opposite end of the sociolinguistic spectrum.

#### 4 Accounts of (2)—Past, Present, and Future

Several traditionalist handbooks (Alonso and Henríquez Ureña 1964, Entwistle 1936, García de Diego 1959, Gili y Gaya 1964, Kany 1951, Menéndez Pidal 1905, Rosenblat 1946) contain examples and commentary—some brief, some extensive—regarding all of the alternative configurations in (2) except *no•los* (2c). The orientation of these works is pedagogical, dialectological, or historical, not generative.

The first generative work on any of the configurations in (2) is by Bonet (1991), who considers only *se•los* (2b), as does Grimshaw (1997). Harris 1994a treats *no•los* (2c) as well as *se•los*. The *véndath•lon* phenomenon (2a) (VIM) does not appear until Minkoff's (1994) study of a single Caribbean speaker who also employs *se•los* but not *véndan•lon* (2a) (Kopy). VIM dialects and Kopy dialects are first treated together in Harris 1996 (revised and published in English as Harris 1998a), where the two phenomena are attributed to two distinct formal operations.<sup>26</sup>

This brief historical overview provides a background against which the innovations of the present work can be recognized. We give evidence that Kopy and VIM are closely related phenomena in native-speaker competence, and we attribute the two effects to operations controlled by the nearly identical formal statements

$$\begin{array}{ll} X [n/_{Agr}] \langle \bullet / Cl / _D \rangle Y & \text{(VIM)} \\ X [n/_{Agr}] \langle \bullet / Cl / _D \rangle Y & \text{(Kopy)} \end{array}$$

which differ only in the presence of one juncture symbol,  $\rangle$ . More generally, the theory within which these formal statements are framed permits integration of the heretofore problematic operations (full and partial) reduplication and metathesis. Our work also expands the empirical foundation of the investigation in progress by identifying and characterizing variation among VIM and Kopy dialects.

We have raised questions that could not be formulated previously, a number of which remain open. A summary of these questions follows.

- Does dialect VIM-U (22b) actually exist? That is, is rebracketing ever obligatory?
- Similarly for table 2: Do any of the unattested Kopy dialects actually exist? On what principled basis are they (dis)allowed?
- Is *díga•men•lon* (footnote 17) a valid form or a typographical error?
- Does hierarchy (25) hold in (some/most/all) Kopy dialects?
- What is the grammatical basis for (25), syncretism or form-class redundancy? Or something else? Or one thing for some speakers, something else for others?

<sup>26</sup> Other modern documents list examples of the configurations in (2) but offer little or no analysis of them.

- What syntactic structure enables (29)? Do normal Kopy and (29) coexist in the speech of a single individual?
- What is the derived constituent structure following the Kopy and VIM operations (section 2.5)?
- What is the syntactic, or syntactic and morphological, basis for the contrast between (31) and (32)?

Other issues that have not been raised involve possible interactions between the *no•los* effect (2c) and VIM and/or Kopy. The first question is whether or not these effects coexist in a single speaker. If they do, how do they interact? More specifically, what is the status of the forms in (37)?

(37) <i>Input</i>	<i>VIM and Kopy outputs</i>
dén•nos•lo	?dé(n)•nos•lo ‘give-PL it to us’
	?dé(n)•non•lo
	?dé(n)•nos•lon
	?dé(n)•non•los
	?dé(n)•non•lon
	...

A more interesting question arises regarding the same interactions when the second clitic is semantically and syntactically plural as in ‘give-PL them to us’.

(38) <i>Input</i>	<i>VIM and Kopy outputs</i>
dén•nos•los	?dén•nos•los, ?dén•non•los,
	?dén•nos•lon, ?dén•non•lon,
	?dén•nos•lons, ?dén•non•lons
	...

The above is a fair sample of what we need to learn in order to gain a fuller understanding of the VIM and Kopy phenomena. Much of the requisite information has not been compiled in any form and cannot be obtained without intensive interaction with native speakers.

Other questions will occur to other researchers, among them, no doubt, the fundamental issue of whether VIM and Kopy are due to strictly syntactic movement rather than to the postsyntactic operations we propose. No such analysis has been articulated, to our knowledge.<sup>27</sup> We are skeptical that a purely syntactic treatment is tenable, but we refrain from developing an explicit critique since, in our experience, it is risky business to formulate a strawman analysis in a framework one does not espouse, with the intention of showing what a bad account adherents of that frame-

<sup>27</sup> Recall from the historical sketch at the beginning of this section that Minkoff 1994 was the first generative study of VIM, and Harris 1996/1998a was the first study of VIM and Kopy together. Both of these analyses invoke operations in the Morphology rather than movement and/or copying in the syntactic derivation.



work would have to propose, were they to propose any. Interesting and durable results are more likely to come from the effort to work out real problems in a framework that investigators deem worthy of their time and energy. We thus leave it to future scholars to explore the validity of treating VIM and Kopy in exclusively syntactic terms.

## 5 Envoi

We have presented here what we believe to be an attractive and exciting new theoretical framework. The basis for this belief is the fact that the formal apparatus developed here unifies and explains four puzzling and ostensibly unrelated sets of data: the Kopy and VIM effects in Spanish and a variety of reduplication and metathesis phenomena. Commonalities between Kopy and VIM have been noted before but up to now have gone without a common formal basis for analysis. Similarly, some connection between reduplication and metathesis has been sensed before but has remained without formal explanation. Moreover, we have shown metathesis to be a special case of partial reduplication. This account of metathesis seems to us an especially welcome result as it eliminates the need to enrich the formal machinery with a new device designed especially to deal with metathesis.<sup>28</sup> While our data have been limited to phoneme sequences, it seems to us not far-fetched to speculate that movement and copy operations outside of phonology are handled by the machinery we have illustrated and defended here. We appeal to heads and hands younger and stronger than ours to extend what we have gotten right in this study and to correct what we have gotten wrong.

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<sup>28</sup> Of the several notations that have been proposed for metathesis (see Baird 2004, Fitzpatrick and Nevins 2002, Raimy 2001, Rose 2003, Steriade 1988, and references therein), none has gained general acceptance. The most recent extensive study of metathesis of which we are aware, Hume 2004, eschews formalism altogether.

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