

# The syntax of Romanian clitic pronouns

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September 28, 2008

## 1 Introduction

This paper is the first of two papers dealing with the analysis of the phonological, morpho-syntactic and semantic properties of clitic pronouns in Romanian. The aim of this paper is to present an integrated analysis of both the phonological as well as the morpho-syntactic properties of clitic pronouns. Based on this, I develop in Klein (2008) an analysis of the syntactic and semantic properties of the clitic-verb cluster (in particular an analysis of the syntactic and semantic properties of clitic doubling and clitic left dislocation), so that together these two papers provide a sign-based analysis of the phonological, syntactic and semantic properties of clitic pronouns in Romanian.

In order to clarify the relation between clitic pronouns and full pronouns, I begin in section 2 with a brief description of the personal pronouns in Romanian, in the course of which I clarify some terminology and the way I use it. In section 3 I present (as theory-neutrally as I can) the phonological and syntactic generalisations governing the realisation and distribution of clitic pronouns in Romanian. In section 4 I provide a detailed review of one of the most detailed and comprehensive analyses of clitic pronouns in Romanian, namely the analysis provided in Monachesi (2005). After pointing out what I take to be some important shortcomings of this analysis, I will present in 5 an alternative sign-based analysis of clitic pronouns. The two main assumptions underlying my analysis are that (due to the sign-based character of the proposed analysis) the phonological rules operate in tandem with the syntactic (and semantic) rules, and that the syntactic rules operate on tuples of strings, not just on strings. The two most important consequences of these assumptions are (i) that we can pair general phonological rules with syntactic rules, resulting in a restriction of the application of the phonological rules to

certain syntactic categories but not others, and (ii) that we can analyse the position of the clitic sequence relative to the verb independently of the order in which the clitics are combined with the verb. In section 6 I sum up the main claims of the present analysis and then discuss how these claims relate to the (still ongoing) debate about the nature of what I have called ‘clitic pronouns’. Section 7 concludes.

## 2 Personal pronouns in Romanian

In Romanian there are two classes of pronouns: stressable and unstressable pronouns. Unstressable pronouns are bound to the verb in the sense that they occur in close proximity to the verb and form together with other elements a verb cluster. The position of these unstressable pronouns with respect to the verb depends on the construction (indicative, imperative, conditional, gerund). Under certain circumstances these unstressable pronouns cliticise to adjacent words, that is they are pronounced together with the adjacent word as a prosodic unit.

Some pronouns in Romanian can be stressed, some cannot be stressed. (1b) shows that the phrase *pe ea* (her), which contains the pronoun *ea* (she), can be stressed, whereas (1c) is prosodically ill-formed (indicated with #) if the pronoun *o* is stressed.

- (1) a. Marcel *o* va visita *pe ea*.  
 Marcel ACC.F.3SG will.3SG visit.INF DOM she  
 Marcel will visit her.
- b. Marcel *o* va visita *PE EA*.  
 Marcel ACC.F.3SG will.3SG visit.INF DOM she  
 Marcel will visit HER.
- c. # Marcel *o* va visita *pe ea*.  
 Marcel ACC.F.3SG will.3SG visit.INF DOM she  
 Marcel will visit her.

Stressable pronouns have the same distribution as noun phrases.

- (2) a. Marcel *o* va visita *măine pe*  
 Marcel ACC.F.3SG will.3SG visit.INF tomorrow DOM  
 Maria.  
 Mary  
 Marcel will visit Mary tomorrow.
- b. Marcel *o* va visita *măine pe ea*.  
 Marcel ACC.F.3SG will.3SG visit.INF tomorrow DOM she

- Marcel will visit her tomorrow.
- (3) a. Pe Maria Marcel mâine o va  
 DOM Mary Marcel tomorrow ACC.F.3SG will.3SG  
 visita.  
 visit.INF  
 Mary, Marcel will visit tomorrow.
- b. Pe ea Marcel mâine o va visita.  
 DOM she Marcel tomorrow ACC.F.3SG will.3SG visit.INF  
 Her, Marcel will visit tomorrow.

Unstressable pronouns cannot occur in the same position where noun phrases can occur. Instead they must occur in close proximity to the verb. (The precise position will be described in section 3 and analysed in detail in section 5.)

- (4) a. Marcel o va visita mâine pe  
 Marcel ACC.F.3SG will.3SG visit.INF tomorrow DOM  
 Maria.  
 Mary  
 Marcel will visit Mary tomorrow.
- b. \*Marcel o va visita mâine (pe)  
 Marcel ACC.F.3SG will.3SG visit.INF tomorrow DOM  
 o.  
 ACC.F.3SG  
 Int.: Marcel will visit her tomorrow.
- (5) a. Pe Maria Marcel mâine o va  
 DOM Mary Marcel tomorrow ACC.F.3SG will.3SG  
 visita.  
 visit.INF  
 Mary, Marcel will visit tomorrow.
- b. \*Pe o Marcel mâine o va  
 DOM ACC.F.3SG Marcel tomorrow ACC.F.3SG will.3SG  
 visita.  
 visit.INF  
 Int.: Her, Marcel will visit tomorrow.

There are three types of unstressable pronouns: accusative (ACC), dative (DAT) and reflexive (REFL):

- (6) a. Îl vād.  
 ACC.M.3SG see.1SG

- I see him.
- b.  $\hat{\text{Î}}$ i      dau      o carte.  
 DAT.3SG give.1SG a book  
 I give him/her a book.
- c. El se      spală.  
 He REFL washes  
 He washes himself.

Accusative and dative unstressable pronouns subdivide again into two classes each depending on whether they are reduced or unreduced. Compare the unreduced pronouns in (6) with the corresponding reduced forms in (7).

- (7) a. L=**am**                      văzut.  
 ACC.M.3SG=**have.1** seen  
 I/we have seen him.
- b. I=**am**                      dat      o carte.  
 DAT.3SG=**have.1** given a book  
 I/we have given him/her a book.
- c. El s=**a**                      spălat.  
 He REFL=**has** washed  
 He has washed himself.

Note that (as indicated by the equals sign in the example as well as in the gloss) the unstressable pronouns in (7) and the respective following word are pronounced as a unit. In (6), however, the unstressable pronouns and the respective following words are **not** pronounced as a unit, as indicated by the lack of the equals sign. Put differently, there is a correlation between an unstressed pronoun's occurrence in reduced form and its cliticisation to an adjacent word.

The following table contains the different types of accusative, dative, reflexive and (for the sake of comparison) nominative pronouns:

|    |   | NOM | ACC     |           |      | DAT     |           |        | REFL      |      |   |
|----|---|-----|---------|-----------|------|---------|-----------|--------|-----------|------|---|
|    |   |     | stress. | unstress. |      | stress. | unstress. |        | unstress. |      |   |
|    |   |     |         | unred.    | red. |         | unred.    | red.   | unred.    | red. |   |
| SG | 1 | eu  | pe mine | mă        | m    | mie     | îmi       | mi     | mă        | m    |   |
|    | 2 | tu  | pe tine | te        | te   | ție     | îți       | ți     | te        | te   |   |
|    | 3 | M   | el      | pe el     | îl   | l       | lui       | îi     | i         | se   | s |
|    |   | F   | ea      | pe ea     | o    | o       |           |        |           |      |   |
| PL | 1 | noi | pe noi  | ne        | ne   | nouă    | ne        | ne, ni | ne        | ne   |   |
|    | 2 | voi | pe voi  | vă        | v    | vouă    | vă        | v, vi  | vă        | v    |   |
|    | 3 | M   | ei      | pe ei     | îi   | i       | lor       | le     | le, li    | se   | s |
|    |   | F   | ele     | pe ele    | le   | le      |           |        |           |      |   |

The undeniable (albeit partial) phonological similarities between stressable and unstressable personal pronouns are interpreted as evidence that the unstressable pronouns have developed from stressable pronouns.

In most cases reduced pronouns are also spelled differently from their unreduced counterparts. In some cases the reduced and the unreduced pronouns are spelled the same way, but their pronunciation is nevertheless different. For a phonological analysis of reduced and unreduced unstressable pronouns see Popescu (2000).

In the next section I will show (i) that unstressable pronouns are part of the verb cluster, (ii) that their position with respect to the verb depends not only on the type of construction (indicative, positive imperative, negative imperative, conditional, inverted conditional, gerund) but also in one noteworthy case on phonological properties, and (iii) when exactly phonological incorporation (cliticisation) of unstressable pronouns is obligatory, optional and impossible.

If a morphological or syntactic formative  $W_1$  lacks autonomous accent and is therefore phonologically integrated with an adjacent formative  $W_2$ , I will say that  $W_1$  has **cliticised** to  $W_2$ . Strictly speaking, then, a clitic is a formative which has cliticised to an adjacent formative. If a formative cliticises to the preceding formative, then it is called an *enclitic*, and when it cliticises to the following formative, then it is called a *proclitic*.

As pointed out in ???, it is important to distinguish the phonological host of a clitic from its syntactic host, simply because these two hosts do not always coincide. So if a formative precedes its syntactic host I shall call it *preverbal*, whereas if it follows its syntactic host I shall call it *postverbal*. Given that occurrences of pronouns can differ with respect to these two parameters, we can distinguish six different logical possibilities for the occurrence of unstressable pronouns.

|              | preverbal                                     | postverbal                                 |
|--------------|---|--|
| enclitic     | <b>l=am auzit</b><br>(ACC.M.3SG=have.1 heard) |  |
| proclitic    | <b>nu=l aud</b><br>(NEG=ACC.M.3SG hear.1SG)   | <b>trimite=l</b><br>(send.IMP.2SG=ACC.3SG) |
| uncliticised | <b>îl aud</b><br>(ACC.M.3SG hear.1SG)         |  |

As will be shown below, in Romanian preverbal unstressable pronouns can be either encliticised to the following formative, procliticised to the preceding formative, or they may not cliticise at all. Postverbal unstressable pronouns can only occur as procliticised to the preceding formative.

I will use the term ‘unstressable pronouns in Romanian’ interchangeable with the term ‘clitic pronoun in Romanian’, with an important caveat: in using the term ‘clitic pronoun’ I do not imply that the pronoun is actually cliticised. When it is necessary to be precise, I will specify whether an unstressed pronoun is (i) proclitic, enclitic or uncliticised, and (ii) whether it is preverbal or postverbal.

### 3 The verb cluster in Romanian

In Romanian the infinitive marker **a**, the subjunctive marker **să**, the negation **nu**, clitic pronouns, auxiliaries, monosyllabic adverbs (also called intensifiers), the perfective marker **fi**, and the main verb form a cluster in the sense that no other word or phrase can intervene between the elements of this group. The order of the elements of the verb cluster depends on the type of construction, and in one particular case (the position of the unstressable pronoun **o** (ACC.F.3SG)) on phonological properties. Thirdly, in certain cases unstressable pronouns must be cliticised (they occur in reduced form), in other cases they cannot be cliticised, and in yet other cases they may be cliticised. In this section I will describe these three properties of unstressable pronouns by looking in turn at the different constructions in which they occur.

#### 3.1 Indicative

I will begin by listing a number of generalisations about the indicative construction in Romanian.

The order of elements in an indicative verb cluster is: negation, dative clitic pronoun, {accusative clitic pronoun, reflexive clitic pronoun}, auxiliary,



A notable exception to the generalisation about the order of the elements of the verbal cluster in the indicative is when the verb cluster contains both the accusative clitic pronoun *o* (ACC.F.3SG) and a vowel-initial auxiliary. In this case the accusative clitic pronoun does not precede the auxiliary but follows the verb.

- (10) a. \*Eu *o=am*                      *adus*  
           I ACC.F.3SG=have.1 brought  
           Int.: I have brought it.
- b. \*Eu *o*                      *am*      *adus*  
           I ACC.F.3SG have.1 brought  
           Int.: I have brought it.
- c. Eu *am*      *adus=o*  
           I have.1 brought=ACC.F.3SG  
           I have brought it.

In all other cases the clitic pronoun *o* (ACC.F.3SG) precedes the verb. Note in particular (i) that *o* can occur before an auxiliary, if the auxiliary begins with a consonant (11), and (ii) that *o* can also occur before main verbs which are vowel-initial (12). Note that in these cases *o* does not cliticise to the following word:

- (11) *o*                      *voi*      *trinite.*  
       ACC.F.3SG will.1SG send  
       I will send her.
- (12) *o*                      *aud.*  
       ACC.F.3SG hear.1SG  
       I hear her.

Why does the clitic pronoun *o* (ACC.F.3SG) occur after the verb if the auxiliary is vowel-initial? To find out the answer, it is helpful to look at the phonological behaviour of other clitic pronouns when they precede a vowel-initial auxiliary.

If the verb cluster contains a clitic pronoun other than *o* as well as a vowel-initial auxiliary, then the weak pronoun attaches phonologically to the auxiliary. (The weak pronoun and the vowel-initial auxiliary must be pronounced as a prosodic unit, the reduced form of the clitic pronoun is obligatory).

- (13) a. L=*am*                      *citit.*  
           ACC.M.3SG=have.1 read  
           I/we have read it (masc.).

- b. \* $\hat{f}l$              $am$      $citit$ .  
 ACC.M.3SG have.1 read  
 Int.: I/we have read it (masc.).
- (14) a.  $I=am$                      $dat$   $un$   $cadou$ .  
 DAT.M.3SG=have.1 given a gift.  
 I/we have given him a gift.
- b. \* $\hat{f}i$                  $am$      $dat$   $un$   $cadou$ .  
 DAT.M.3SG have.1 given a gift.  
 Int.: I/we have given him a gift.

If, however, the verb complex contains a clitic pronoun and an auxiliary which is not vowel-initial, then the clitic pronouns do not attach phonologically to the auxiliary. (The clitic pronoun and the auxiliary are pronounced as different prosodic units. The unreduced form of the clitic pronoun is used.)

- (15) a. \* $L=voi$                              $trimate$ .  
 ACC.M.3SG=will.1SG send  
 Int.: I will send it.
- b.  $\hat{f}l$                  $voi$      $trimate$ .  
 ACC.M.3SG will.1SG send  
 I will send it.
- (16) a. \* $I=voi$                              $da$   $un$   $cadou$ .  
 DAT.3SG=will.1SG give a gift.  
 Int.: I will give him/her a gift.
- b.  $\hat{f}i$                  $voi$      $da$   $un$   $cadou$ .  
 DAT.3SG will.1SG give a gift.  
 I will give him/her a gift.

So clitic pronouns other than  $o$  obligatorily attach phonologically to an auxiliary if and only if the auxiliary is vowel initial. To account for this I will postulate a rule which phonologically attaches a clitic pronoun to an auxiliary if and only if the auxiliary is vowel-initial. And the ungrammaticality of (10a), which is the only exception to this generalisation, will be accounted for by a condition on a phonological operation which prohibits hiatus in unstressed monosyllabic prosodic words.

If two clitic pronouns are adjacent, they attach phonologically to one another, and form a prosodic unit. Both clitic pronouns must occur in their reduced forms.

- (17) a.  $\mathcal{T}i=1$                              $trimit$ .  
 DAT.2SG=ACC.M.3SG send.1SG

- I send you it.
- b. \*  $\hat{\text{I}}\text{t}\text{i}=1$                        $\text{trimit.}$   
 DAT.2SG=ACC.M.3SG send.1SG  
 Int.: I send you it.
- c. \*  $\text{T}\text{i}=\hat{\text{i}}1$                        $\text{trimit.}$   
 DAT.2SG=ACC.M.3SG send.1SG  
 Int.: I send you it.
- d. \*  $\hat{\text{I}}\text{t}\text{i}$        $\hat{\text{i}}1$                        $\text{trimit.}$   
 DAT.2SG ACC.M.3SG send.1SG  
 Int.: I send you it.

This generalisation holds even if there is a potential phonological host to the left. (18a) shows that the clitic pronoun can attach phonologically to the preceding negation marker. However, this is not possible if the verb cluster contains two clitic pronouns, as shown by (18b). (18c) shows that the two clitic pronouns must attach phonologically to one another.

- (18) a.  $\text{Nu}=\text{t}\text{i}$                        $\text{trimit...}$   
 NEG=DAT.2SG send.1SG  
 I don't send you...
- b. \*  $\text{Nu}=\text{t}\text{i}$                        $\hat{\text{i}}1$                        $\text{trimit.}$   
 NEG=DAT.2SG ACC.M.3SG send.1SG  
 Int.: I don't send you it (masc.).
- c.  $\text{Nu}$      $\text{t}\text{i}=1$                        $\text{trimit.}$   
 NEG DAT.2SG=ACC.M.3SG send.1SG  
 I don't send you it (masc.).

If two clitic pronouns are followed by a vowel-initial auxiliary, then the clitic pronouns and the auxiliary are pronounced as one prosodic unit, and the clitic pronouns must both occur in reduced form. If the clitic pronouns are followed by an auxiliary which is not vowel-initial, then the clitic pronouns and the auxiliary are pronounced as two separate prosodic units. The clitic pronouns must both occur in reduced form.

- (19) a.  $\text{T}\text{i}=1=\text{am}$                        $\text{dat.}$   
 DAT.2SG=ACC.M.3SG=have.1 given.  
 I/we have given you it (masc.).
- b. \*  $\hat{\text{I}}\text{t}\text{i}$        $\hat{\text{i}}1$                        $\text{am}$      $\text{dat.}$   
 DAT.2SG ACC.M.3SG have.1 given.  
 Int.: I/we have given you it (masc.).

- c. \*  $\hat{\text{I}}\text{ti}$        $\text{l}=\text{am}$                        $\text{dat.}$   
 DAT.2SG ACC.M.3SG=have.1 given.  
 Int.: I/we have given you it(masc.).
- d. \*  $\text{Ți}=\hat{\text{i}}\text{l}$                                        $\text{am}$        $\text{dat.}$   
 DAT.2SG=ACC.M.3SG have.1 given.  
 Int.: I/we have given you it (masc.).
- (20) a.  $\text{Ți}=\text{l}$                                        $\text{voi}$        $\text{da.}$   
 DAT.2SG=ACC.M.3SG will.1SG give.  
 I will give you it(masc.).
- b. \*  $\hat{\text{I}}\text{Ți}$        $\hat{\text{i}}\text{l}$                                        $\text{voi}$        $\text{da.}$   
 DAT.2SG ACC.M.3SG will.1SG give.  
 Int.: I will give you it(masc.).
- c. \*  $\hat{\text{I}}\text{Ți}=\text{l}$                                        $\text{voi}$        $\text{da.}$   
 DAT.2SG=ACC.M.3SG will.1SG give.  
 Int.: I will give you it(masc.).
- d. \*  $\text{Ți}=\hat{\text{i}}\text{l}$                                        $\text{voi}$        $\text{da.}$   
 DAT.2SG=ACC.M.3SG will.1SG give  
 Int.: I will give you it(masc.).

If a clitic pronoun (i) precedes the verb, (ii) cannot attach phonologically to the right (cannot procliticise), and (iii) is vowel-initial, then it may attach phonologically to the left (it may encliticise).

- (21) a. i.  $\text{Maria}$   $\hat{\text{i}}\text{l}$                                        $\text{cumpără.}$   
 Mary ACC.M.3SG buys  
 Mary buys it(masc.).
- ii.  $\text{Maria}=\text{l}$                                        $\text{cumpără.}$   
 Mary=ACC.M.3SG buys  
 Mary buys it(masc.).
- b. i.  $\text{Maria}$   $\text{l}=\text{a}$                                        $\text{cumpărat.}$   
 Mary ACC.M.3SG=has.3SG bought  
 Mary bought it(masc.).
- ii. \*  $\text{Maria}=\text{l}$                                        $\text{a}$                        $\text{cumpărat.}$   
 Mary=ACC.M.3SG has.3SG bought  
 Int.: Mary bought it(masc.).
- c. i.  $\text{Maria}$   $\text{ne}$                        $\text{va}$                        $\text{cumpăra ceva.}$   
 Maria DAT.3PL will.3SG buy.INF something  
 Mary will buy us something

- ii. \*Maria=ne           va           cumpăra ceva.  
 Maria=DAT.3PL will.3SG buy.INF something  
 Int.: Mary will buy us something

Summary:

- The order of elements in the indicative verb cluster is:

|      |     |     |             |                  |     |     |   |           |
|------|-----|-----|-------------|------------------|-----|-----|---|-----------|
| Ind. | NEG | DAT | {ACC, REFL} | AUX              | INT | PFV | V |           |
|      | NEG | DAT |             | AUX <sup>3</sup> | INT | PFV | V | ACC.F.3SG |

- No other word or phrase can intervene between the elements of the verbal complex.
- clitic pronouns attach phonologically to the auxiliary if and only if the auxiliary is vowel-initial.
- The phonological attachment of the accusative feminine third person singular clitic pronoun *o* to a preverbal vowel-initial auxiliary results in a prosodically ill-formed unit.
- The clitic pronoun *o* (ACC.F.3SG) occurs after the main verb, if the verb cluster contains a vowel-initial auxiliary.
- If two clitic pronouns are adjacent, they attach phonologically to each other.
- If a clitic pronoun (i) precedes the verb, (ii) cannot attach phonologically to the right, and (iii) is vowel initial, then it may attach phonologically to the left.

### 3.2 Imperative

In positive imperatives clitic pronouns follow the verb and are phonologically attached to it.

- (22) a. i.    Trimite=l.  
           send.IMP.2SG=ACC.M.3SG  
           Send it(masc.)!
- ii. \*Trimite       îl.  
           send.IMP.2SG ACC.M.3SG  
           Int.: Send it(masc.)!

<sup>3</sup>The auxiliary must be vowel-initial.

- b. i. Trimite=mi un roman  
 send.IMP.2SG=DAT.1SG a novel  
 Send me a novel!
- ii. \*Trimite îmi un roman  
 send.IMP.2SG DAT.1SG a novel  
 Int.: Send me a novel!

In negative imperatives the clitic pronouns precede the verb.

- (23) a. Nu=l trimite.  
 NEG=ACC.M.3SG send.INF  
 Don't send it(masc.)!
- b. Nu=mi trimite un roman.  
 NEG=DAT.1SG send.INF a novel  
 Don't send me a novel!

The order of clitic pronouns relative to one another is the same as in the indicative mood, i.e. dative before accusative.

- (24) a. Trimite=mi=l.  
 send.IMP.2SG=DAT.1SG=ACC.M.3SG  
 Send me it(masc.)!
- b. \*Trimite=l=mi.  
 send.IMP.2SG=ACC.M.3SG=DAT.1SG
- (25) a. Nu mi=l trimite.  
 NEG DAT.1SG=ACC.M.3SG send.2SG  
 Don't send me it(masc.)!
- b. \*Nu l=mi trimite.  
 not ACC.M.3SG=DAT.1SG send.2SG

The intensifiers precede the verb both in positive and in negative imperatives.

- (26) a. Mai cumpără.  
 still buy.IMP.2SG  
 Keep buying!
- b. Nu mai cumpăra.  
 NEG still buy.INF  
 Stop buying!

Note, by the way, that the negative imperative in Romanian is formed with the infinitive verb form, not with the imperative verb form which is only used in the positive (singular) imperative.

Summary:

- The order of the elements of an imperative verb cluster is:

|      |     |     |     |     |   |     |     |
|------|-----|-----|-----|-----|---|-----|-----|
| Imp. |     |     |     | INT | V | DAT | ACC |
|      | NEG | DAT | ACC | INT | V |     |     |

- The order of the weak pronouns is always dative before accusative, both when they occur before the verb (negative imperative) and when they occur after the verb (positive imperative).
- If two clitic pronouns are adjacent, they attach phonologically to each other.
- In positive imperatives, the clitic pronouns occur after the verb and are phonologically attached to it (enclisis).

### 3.3 Gerund

clitic pronouns follow the gerund and are phonologically attached to it (27a). The order of the clitic pronouns relative to one another is the same as in the indicative and the imperative (27b). The intensifier *mai* precedes the gerund, and the negation is at the left edge (27c).

- (27) a. **Cumpărănd=u=l**  
buy.GER=FIL=ACC.M.3SG  
buying it(masc.)
- b. **Cumpărănd=u=mi=l**  
buy.GER=FIL=DAT.1SG=ACC.M.3SG  
buying it(masc.) for me
- c. **Ne=mai=având=u=l**  
NEG=still=have.GER=FIL=ACC.M.3SG  
not having it(masc.) anymore

FIL stands for filler, and glosses the phonologically inserted vowel *u* which eases the suffixation of the consonant *l* to the consonant *d*.

Summary:

- Order of elements in a gerund verb complex:

|      |     |     |   |     |     |
|------|-----|-----|---|-----|-----|
| Ger. | NEG | INT | V | DAT | ACC |
|------|-----|-----|---|-----|-----|

- The order of the clitic pronouns is dative before accusative.

- If two clitic pronouns are adjacent, they attach phonologically to each other.
- The clitic pronouns are phonologically attached to the verb (enclisis).

### 3.4 Inverted and uninverted conditionals

Romanian has two types of conditional constructions. In the first the conditional auxiliary occurs before the verb, whereas in the second the conditional auxiliary occurs after the verb. I shall call the latter construction the “inverted conditional construction” in order to distinguish it from the “uninverted” conditional construction.<sup>4</sup>

In the **uninverted** conditional construction the order of the elements of the verb cluster is the same as in the indicative, i.e. the negation precedes the clitic pronouns, which precede the conditional auxiliary, as exemplified in (28a). In the **inverted** conditional, however, the cluster consisting of clitic pronouns and conditional auxiliary occurs **after** the main verb, as exemplified in (28b). The inverted conditional construction has a fairly restrictive usage (mainly swearwords or expressions of praise or admiration). The relevance of these uninverted construction is twofold. First, it shows that the clitic pronouns cluster together with the auxiliary, and secondly it shows that the clitic pronoun *o* (ACC.F.3SG) can occur before a vowel-initial auxiliary, if the auxiliary is postverbal.

- (28) a. Nu l=aș mâncă  
 NEG ACC.M.3SG=would.1SG eat.INF  
 I would not eat it(masc.).
- b. Mâncă=l=ar mama.  
 eat.INF=ACC.M.3SG=would.3SG mother.  
 (He is so sweet that) mother would eat him.

If the baby is a girl then one would say (29a) instead of (28b):

- (29) a. Mâncă=o=ar mama.  
 eat.INF=ACC.F.3SG=would.3SG mother.  
 (She is so sweet that) mother would eat her.
- b. \*o=ar mâncă.  
 ACC.F.3SG=would.3SG eat.INF.  
 Int.: he/she would eat it(fem.)/her.

<sup>4</sup>The notions of “inverted” and “uninverted” are simply labels for the syntactically different conditional constructions, and nothing hinges on the particular labels chosen.

- c.     **ar**            **mãnca=õ**.  
           would.3SG eat.INF=ACC.F.3SG  
           he/she would eat it(fem.)/her

Note that if both the clitic pronoun and the conditional auxiliary occur after the verb (i.e. in the inverted conditional), the clitic pronoun **õ** (ACC.F.3SG) **can** occur before the vowel-initial auxiliary **ar**, as shown by (29a). However, in the uninverted conditional construction exemplified by (29b) the clitic pronoun **õ** **cannot** occur before the vowel initial auxiliary **ar**, but has to occur after the verb, as shown in (29c).

Summary:

- Order of elements in the uninverted (UC) and inverted (IC) conditionals:

|    |     |     |     |   |           |     |
|----|-----|-----|-----|---|-----------|-----|
| UC | DAT | ACC | AUX | V |           |     |
|    | DAT |     | AUX | V | ACC.F.3SG |     |
| IC |     |     |     | V | DAT       | ACC |
|    |     |     |     |   |           | AUX |

- The order of the clitic pronouns is always dative before accusative, irrespective of whether the clitic pronouns are preverbal or postverbal.
- In uninverted conditional constructions **õ** (ACC.F.3SG) cannot occur before the vowel-initial conditional auxiliary.
- In inverted conditional constructions the clitic pronoun **õ** (ACC.F.3SG) occurs **before** the vowel-initial conditional auxiliary, and both occur after the main verb. The clitic pronoun **õ** and the conditional auxiliary do not form a prosodic word but a prosodic syllable which is part of the prosodic word including the main verb.

Despite its idiomaticity, the inverted conditional construction is relevant because it shows that the clitic pronoun **õ** (ACC.F.3SG) can occur before a vowel-initial auxiliary. Note, however, that in this case the clitic pronoun and the auxiliary do not form a prosodic word by themselves, but are part of the prosodic word containing the main verb.

### 3.5 Infinitive

The infinitive and the subjunctive markers are analysed as part of the verb cluster, because their order with respect to the clitic pronouns and the verb is fixed, and no other word or phrase can occur between them and the other elements of the verb cluster.

The infinitive marker **a** occurs before the negation marker **nu**.

- (30) a nu țȳ=1 trimite  
 INF NEG DAT.2SG=ACC.M.3SG send  
 not sending it to you

### 3.6 Subjunctive

The subjunctive marker *să* occurs before the negation marker *nu*.

- (31) M=a rugat să nu țȳ=1  
 DAT.1SG=have.3SG asked SBJV NEG DAT.2SG=ACC.M.3SG  
 trimit  
 send.SBJV  
 He asked me that I don't send you it

Summary:

- Order of elements in the infinitive and subjunctive verb complex:

|         |      |     |     |     |     |     |   |
|---------|------|-----|-----|-----|-----|-----|---|
| Infin.  | INF  | NEG | DAT | ACC | INT | PFV | V |
| Subjun. | SBJV | NEG | DAT | ACC | INT | PFV | V |

### 3.7 Summary

I will now sum up the main properties of the verb cluster in Romanian.

1. Order of elements in the verb cluster:

|            |      |     |     |     |                  |     |     |   |             |
|------------|------|-----|-----|-----|------------------|-----|-----|---|-------------|
| Ind.       |      | NEG | DAT | ACC | AUX              | INT | PFV | V |             |
|            |      | NEG | DAT |     | AUX <sup>5</sup> | INT | PFV | V | ACC.F.3SG   |
| Imp.       |      |     |     |     |                  | INT |     | V | DAT ACC     |
|            |      | NEG | DAT | ACC |                  | INT |     | V |             |
| Ger.       |      | NEG |     |     |                  | INT |     | V | DAT ACC     |
| Cond.      |      |     | DAT | ACC | AUX              |     |     | V |             |
|            |      |     | DAT |     | AUX              |     |     | V | ACC.F.3SG   |
| Inv. Cond. |      |     |     |     |                  |     |     | V | DAT ACC AUX |
| Infin.     | INF  | NEG | DAT | ACC |                  | INT | PFV | V |             |
| Subjun.    | SBJV | NEG | DAT | ACC |                  | INT | PFV | V |             |

2. With one exception (i.e. the clitic pronoun *o*) two clitic pronouns always occur on the same side of the verb.
3. Nothing can intervene between the elements of the verbal cluster.
4. The order of clitic pronouns is always dative before accusative, irrespective of whether they are preverbal or postverbal.

<sup>5</sup>Vowel-initial auxiliary.

5. The monosyllabic intensifiers and the perfective marker **fi** always occur before the verb. In this they differ markedly from the clitic pronouns which may occur either before or after the verb. (I will not provide a functional explanation of why the intensifiers always occur before the verb, and never after.)
6. If two clitic pronouns are adjacent, both must occur in reduced form.
7. If clitic pronouns are postverbal they must occur in reduced form.
8. If a clitic pronoun occurs in front of an auxiliary then its form must be reduced if and only if the auxiliary is vowel-initial.

Important observations about the position of the clitic pronoun **o** (ACC.F.3SG):

1. The clitic pronoun **o** follows the verb if and only if the verb cluster contains a vowel-initial auxiliary.
2. In inverted conditionals, **o** precedes the (inverted) vowel-initial conditional auxiliary. Note, however, that in this case the weak pronoun and the auxiliary do not form an unstressed prosodic word, but a syllable which is part of the prosodic word containing the main verb.

The analysis in the next section will account for all these properties of the Romanian verb cluster, and will thus constitute a hypothesis about what the structure of the verb cluster in Romanian is. In particular, I will provide an analysis of (i) the preverbal and postverbal occurrence of clitic pronouns, (ii) the fact that clitic pronouns remain before the auxiliary, if the auxiliary is postverbal, (iii) the fact that dative clitic pronouns occur before accusative clitic pronouns, both preverbally and postverbally, (iv) that negation and monosyllabic intensifiers always occur preverbally, (v) obligatory phonological reduction, and (vi) the distribution of the clitic pronoun **o** (ACC.F.3SG). The reason why I decided to provide an analysis of obligatory phonological reduction is that it is, as I will argue, instrumental in understanding the postverbal occurrence of the weak pronoun **o**.

It should be pointed out that the analysis itself is a hypothesis of **what** the structure of the verb cluster is, and not a hypothesis about **why** the structure is the way it is. In other words, I will specify formal (exponent and category) and conceptual operations which together provide a hypothesis about the structure of the verb cluster, but I will not answer the question why for example the dative clitic pronoun always occurs before the accusative clitic pronouns, or why the monosyllabic intensifiers never occur after the verb.

## 4 Monachesi's analysis

In this section I will present and discuss the analysis of Romanian clitic pronouns in Monachesi (2005), which is arguably one of the most detailed and comprehensive analyses of the verb cluster in Romanian.

The basic claim about Romanian clitic pronouns in Monachesi (2005) is that clitic pronouns are not signs, but the phonological realisation of certain features of a verb category. Since this analysis is arguably one of the most comprehensive analyses of the Romanian verb cluster, I will begin with a summary of the analysis of Romanian accusative and dative clitic pronouns in Monachesi (2005). Then I will point out some problems for this analysis, and finally I will compare it with the present analysis.

The first component of Monachesi's theory of clitic pronouns in Romance is the Complement Cliticization Lexical Rule (CCLR), which reduces the sub-categorization requirement of a verb by removing a complement sign from the COMP list, and placing it onto the CLTS list. The idea behind this rule is that if it applies, a full complement NP cannot be combined anymore, whereas if the rule does not apply, then a clitic pronoun cannot be produced. Thus this rule accounts for the cases where clitic pronouns and coreferent noun phrases are in complementary distribution, as for example in Italian and French.

$$\left[ \begin{array}{l} \textit{word} \\ \text{HEAD} \\ \text{VAL} \mid \text{COMPS} \\ \text{CLTS} \end{array} \quad \begin{array}{l} \textit{verb} \\ \boxed{1} \circ \boxed{2} \\ \textit{elist} \end{array} \right] \mapsto \left[ \begin{array}{l} \text{VAL} \mid \text{COMPS} \\ \text{CLTS} \end{array} \quad \begin{array}{l} \boxed{1} \\ \boxed{2} \text{list}(\text{cl-ss}) \end{array} \right]$$

This is a lexical rule (indicated by the arrow  $\mapsto$ ), and not a implicational constraint (which are indicated by the arrow  $\rightarrow$ ). Note in particular that it only applies to verb signs whose value for the feature CLTS is an empty list, and that it results in a verb sign whose value for CLTS is a list containing one or more complement signs. In other words, this rule can only apply once to a particular verb, and therefore all the complement signs which will be realised as clitic pronouns attached to that verb are moved onto the CLTS list in one step.

To account for clitic doubling, Monachesi proposes a Clitic Doubling Lexical Rule (CDLR) which does not remove a complement sign from the COMPS list, but requires that the structure of one of the signs on the COMPS list be

identical to the structure of a sign on the CLTS list.

$$\left[ \begin{array}{l} \textit{word} \\ \text{HEAD} \quad \textit{verb} \\ \text{VAL} \mid \text{COMPS} \quad \boxed{1} \circ \boxed{2} \text{NP}[\textit{dat}] \\ \text{CLTS} \quad \textit{elist} \end{array} \right] \mapsto \left[ \begin{array}{l} \text{VAL} \mid \text{COMPS} \quad \boxed{1} \circ \boxed{2} \text{NP}[\textit{dat}] \\ \text{CLTS} \quad \boxed{2} \end{array} \right]$$

Since not all complements can be doubled, she suggests identifying the complements which can be doubled either by appropriate features or by introducing a specific typing system, “which classifies the SYNSEM of the NP on the basis of the specific semantic and pragmatic conditions underlying clitic doubling”. Monachesi (2005) does not provide an analysis of the fact that (i) for certain types of complements doubling is obligatory, while with others it is optional, and that (ii) the doubling of preverbal and postverbal direct object NPs is asymmetric.

Monachesi essentially adopts the view that “object clitics do not receive a theta-role from the verb but instead agree with the verb’s relevant argument.” (p. 84) If this were the case, then it is left unexplained why e.g. the direct objects *pe cineva* (DOM somebody) and *pe nimeni* (DOM nobody) cannot be doubled. If however, we hypothesise that the weak pronoun does indeed have the same semantic value as a pronoun which must be saturated by an identifiable entity, then it follows that these direct objects cannot be doubled, since their semantic value does not represent an identifiable entity.

Note that CCLR and CDLR do not add an affix to the verb, but only manipulate the subcategorization information encoded in the features COMP and CLTS.

The presence of an affix is guaranteed by postulating implicational constraints. For example, the presence of the clitic pronoun *îi* (DAT.3SG) is guaranteed by the fact that all feature structures have to satisfy the following implicational constraint:

$$\left[ \begin{array}{l} \textit{complex-morph} \\ \text{STEM} \mid \text{SS} \mid \text{L} \mid \text{C} \mid \text{CLTS} \langle \text{NP}[\textit{dat}]_{3sg} \rangle \end{array} \right] \rightarrow \left[ \text{AFFIX} \left[ \begin{array}{l} \textit{prefix} \\ \text{PHON} \langle \textit{îi} \rangle \end{array} \right] \right]$$

This constraint “applies to morphologically complex words and it states that if this word contains the information about a dative, third singular masculine element in the CLTS list, then the clitic *îi* must also be present in the structure.”

So far, the lexical rules for complement cliticization (CCLR) and for clitic doubling (CDLR) add complement signs to the CLTS list, while implicational constraints (one for every clitic pronoun and for every combination of clitic pronouns) ensure that verbs with a non-empty CLTS list contain appropriate

affixes. The linear order of the affixes and the verb is then determined by a second set of implicational constraints which correlate the type of the verb with the position of the affix relative to the verb stem. I shall refer to this set of constraints as the linearization constraints, and to the previous set as the realisation constraints.

It is important to point out that in Monachesi's analysis weak pronouns are not analysed as signs, i.e. as form-meaning units, but as affixes which have only phonological properties (see Monachesi (2005, 98)) – that is they have no meaning. This, of course, begs the question of how the different meanings of (32a) and (32b) are analysed.

- (32) a.   o           aud  
           ACC.F.3SG hear.1SG  
           I hear her.
- b.   aud  
           hear.1SG  
           I hear.

I take it to be obvious that the meaning difference correlates with the presence or absence of the clitic pronoun *o*, but precisely this generalisation is not captured by hypothesising that weak pronouns are affixes lacking a semantic value. As far as I can tell this important point has not been addressed in Monachesi (2005).

I will illustrate Monachesi's analysis by discussing how the sign whose string is *ṭi-am dat-o* (DAT.2SG-have.1 given-ACC.F.3SG) is licensed. The three relevant realization constraints are:

- R1 If the CLTS list contains the structure  $NP[acc]_{f3sg}$  and the verb is not a vowel initial auxiliary, then the verb sign must contain the affix *o*. (constraint (282) in Monachesi (2005, 170f))
- R2 If the CLTS list contains the structure  $NP[dat]_{2sg}$  and the verb is not a past participle or an infinitive, then the verb sign must contain the affix *ṭi*. (constraint (287) Monachesi (2005, 174))
- R3 If the CLTS list contains the structure  $NP[dat]_{2sg}$  and the structure  $NP[acc]_{f3sg}$ , and the verb is not a past participle or an infinitive, then the verb sign must contain the affix *ṭi=o*. (analogous to constraint (180) in Monachesi (2005, 106))

It should also be pointed out that Monachesi stipulates that clitic pronouns cannot be realised as affixes of past participles or on bare infinitives, except for the ACC.F.3SG pronoun *o*. The two linearization constraints are:

L1 If the verb is finite and contains an affix, then the affix is prefixed to the verb. (constraint (274) in Monachesi (2005, 168))

L2 If the verb is non-finite or imperative and contains an affix, then the affix is suffixed to the verb. (constraint (285) in Monachesi (2005, 172))

The application of the cliticization lexical rule CCLR derives a cliticised verb form from the non-cliticised verb form *dat*. This rule removes the accusative NP sign from the COMPS list, and puts it on the CLTS list. The satisfaction of the first realization constraint R1 requires that the verb contain the affix *o*. The satisfaction of the second linearization constraint L2 requires that the affix *o* be encliticised to *dat*, resulting in *dat-o*. By argument composition, the auxiliary sign *am* and the sign *dat-o* are combined, resulting in a sign which contains the accusative NP sign in its COMP list. A second application of the cliticisation lexical rule CCLR moves this accusative NP sign from the COMP list to the CLTS list. The satisfaction of the second realization constraint R2 requires that the sign *am dat-o* contain the affix *ti*. The satisfaction of the second linearization constraint L2 requires that the affix *ti* be prefixed to the verb, resulting in *ti-am dat-o*.

The main problem with this analysis is that it cannot explain the ungrammaticality of *ti-o am dat*. Nothing precludes the argument composition of *am* with *dat*, resulting in a sign containing both the accusative and the dative NP in the COMP list. A single application of the cliticisation lexical rule CCLR moves these two signs from the COMP list to the CLTS list. The satisfaction of the realisation constraint R3 guarantees that the sign contains the affix *ti-o*, and the satisfaction of the linearisation constraint requires that the affix *ti-o* is prefixed to the string *am dat*, resulting in the licensing of the ungrammatical string *ti-o am dat*.

The second problem with this analysis is the linearisation constraint L2 (285), which essentially requires that the affixes be suffixed to non-finite or imperative verbs. But as shown in section 3, clitic pronouns are not always suffixed to imperative verbs, but only if the imperative verb is in the positive form. In negative imperative constructions, as in many other Romance languages, the clitic pronouns always precede the verb. The challenge for the extension of this analysis to the negative imperative constructions is to allow for clitic pronouns to be realized with an infinitive, if the infinitive verb is part of the negative imperative construction, but to prevent the realization if the infinitive verb is part of the future construction. Even if this distinction could be implemented by elaborating the realization constraints, I believe that this distinction should not be captured by restricting the realization of the clitic pronouns, but by restricting their linearization.

Thirdly, the realization constraint R1 prevents the clitic pronoun *o* from being realized, if the verb is a vowel initial auxiliary. However, as I have shown in section 3 this is not the correct generalization – if the auxiliary precedes the verb *o* cannot occur in front of a vowel initial auxiliary; but when the auxiliary follows the verb, then *o* can precede the auxiliary.

Fourthly, note that the realization constraint R2 stipulates that the clitic pronoun is the reduced form *ɿi* of the (unreduced) dative clitic pronoun *ĩɿi*. As shown in section 3, if the auxiliary is vowel initial, then phonological integration is obligatory. The question is therefore, how the realization of the unreduced form *ĩɿi* is prevented in this particular case. In discussing the alternation of the clitic pronouns *mã* and *m* on page 104, Monachesi postulates a realization constraint which states that “if there is a lexical verb which begins with either the vowel *a* or *o* and it has one element in the CLTS list which is the first singular accusative NP, this can be realized as the clitic *mã* or *m*. [...] A similar constraint can be formulated to account for the fact that if the verb begins with a consonant or a vowel which is different from *a* or *o*, only the clitic *mã* is possible.” (Monachesi, 2005, 104f) So the alternation between phonologically reduced and unreduced clitic pronouns is simply stipulated by means of realization constraints, as if there were no regularity. Despite the fact that similar realization constraints would be necessary in order to account for the alternation between *vã* and *v*, since they behave exactly like *mã* and *m*, Monachesi does not suggest a phonological rule in order to express the underlying phonological regularity. When discussing the *ne* and *ni* alternation, she claims that “[t]he forms ending in *i* cannot be explained by means of phonological rules”, because the form *ni* “surfaces only when it is in combination with another pronominal clitic” [94]. To be precise, the form *ni* occurs if and only if the dative clitic pronoun precedes a clitic pronoun or an auxiliary either of whose nucleus is the vowel *e* or *i*. If the dative clitic pronoun procliticises to a clitic pronoun or auxiliary either of whose nucleus is the vowel *o* or *a*, then it occurs in the unaltered form *ne*. Moreover, the same phonological rule governs the alternation between the dative clitic pronouns *vã/vi* (DAT.2PL) and *le/li*. The generalizations governing the shape of the dative clitic pronouns are therefore:

- If the dative clitic pronoun begins with a vowel, then prosodic integration results in the deletion of the initial vowel. For example, the prosodic integration of *ĩmi* results in *mi*.
- If the dative clitic pronoun does not begin with a vowel (i.e. *ne*, *vã*, *le* (dative)), and this weak pronoun precedes a clitic pronoun or an auxiliary whose nucleus is either *e* or *i* then prosodic integration results in the replacement of the vowel of the dative clitic pronoun by the vowel

- i. Examples: the prosodic integration of **ne** and **îl** results in **ni=1**, the integration of **vã** and **le** (ACC.3PL) results in **vi=1e**. On the other hand, the phonological integration of **ne** and the auxiliary **am** results in **ne=am**, and the phonological integration of **le** with **aş** results in **le=aş**.

Fifthly, when discussing the cases where a clitic pronoun which precedes a verb encliticises to a preceding verb (e.g. **nu=1 aud**, NEG=ACC.M.3SG **hear.1SG**), Monachesi suggests that “it is possible to percolate the information related to the clitics, which is contained in CLTS, on to the relevant host.” In other words, it is suggested that the CLTS list is passed on from the verb **aud** to the negation **nu**, and that “appropriate constraints are responsible for the spell out of the cliticized form.” Given the hypothesis that weak pronouns are the phonological realisation of certain syntactic features it is not only “possible” but **necessary** in Monachesi’s analysis that every phonological host of a clitic pronoun actually subcategorises syntactically for the clitic pronoun – unless the phonological host contains the appropriate value for the syntactic feature CLTS, the clitic pronoun cannot be realised. This is, in my view, symptomatic of a systematic failure to distinguish the position of clitic pronouns with respect to their **syntactic** host (which is a word order phenomenon to be analysed in terms of subcategorisation features) from the direction in which the clitic pronouns cliticise (if they cliticise at all), which is a phonological phenomenon largely **independent** of syntactic categorisation. To put it in a nutshell, in Monachesi’s analysis an expression X is a syntactic host of a clitic pronoun Y if and only if X is the phonological host of Y, whereas in my analysis the syntactic host of the clitic pronoun is always the verbal exponent, whereas the phonological host may vary, depending on whether or not a preverbal clitic pronoun can procliticise or not.

Lastly, I would like to address Monachesi’s two main arguments that the “[c]ombination of two clitics constitutes a unit, and does not result from the composition of two single forms.” (Monachesi, 2005, 94).

The first argument is that the phonological alternation of reduced and unreduced forms cannot be analysed by means of a phonological rule, since e.g. the forms **ni** (DAT.1PL), **vi** (DAT.2PL) and **li** (DAT.3PL) “surface only in the presence of other object clitics” (Monachesi, 2005, 162). The argument is that since there can be no fully general phonological rule which accounts for the alternation between e.g. **ne** and **ni** forms, the combination **ni=1** (DAT.1PL=ACC.M.3SG) cannot be analysed as composed of two forms which are reduced by the application of a general phonological rule. Note the implicit assumption that an analysis of the form **ni=1** as composed of two clitic pronouns would need a **general** phonological rule which applies in every syntactic environment. This is precisely the assumption that I have

abandoned in my analysis of obligatory phonological reduction in section 5.2. In my analysis the application of this rule of phonological reduction has been restricted by pairing the phonological function which performs this reduction with a categorial function which essentially requires that the two elements which get integrated are clitic pronouns. So the fact that a phonological rule which integrates (and thus changes the shape of) two weak pronouns is not general is not necessarily an argument against analysing the expression  $\text{ni}=1$  as composed of two clitic pronouns, provided that this phonological rule is paired with a categorial rule which restricts the application of the phonological rule.

The second argument is that if the clitic pronouns were combined with the verb one by one, and not as a unit or cluster, then we would expect the reverse order if the clitic pronouns follow the verb than when they precede the verb. That is, if the expression  $\text{mi}=\text{o} \text{ d}\bar{\text{a}}$  (DAT.1SG=ACC.F.3SG gives) is generated by prefixing  $\text{o}$  to  $\text{d}\bar{\text{a}}$ , and then prefixing  $\text{mi}$  to  $\text{o} \text{ d}\bar{\text{a}}$ , then if the order in which the weak pronouns are suffixed to the imperative is the same as the order in which they are prefixed to the indicative verbs, one would expect the ungrammatical string  $\text{d}\bar{\text{a}}=\text{o}=\text{mi}$ , and not the grammatical  $\text{d}\bar{\text{a}}=\text{mi}=\text{o}$ . (Suffixing first the accusative clitic pronoun  $\text{o}$  to the imperative  $\text{d}\bar{\text{a}}$  results in  $\text{d}\bar{\text{a}}=\text{o}$ , and the suffixation of  $\text{mi}$  to this string results in ungrammatical  $\text{d}\bar{\text{a}}=\text{o}=\text{mi}$ .) Again, this argument depends on an implicit assumption which I have dropped. The implicit assumption is that the only way in which these strings can be combined is by concatenation of strings. I have argued that the exponent of the verb is a pair of strings, that both the accusative and the dative clitic pronouns are prefixed to the left element of the pair, and that the postverbal occurrence of clitic pronouns is analysed by means of inverting the two elements of the pair. So  $\text{o}$  combines with  $\langle \epsilon, \text{d}\bar{\text{a}} \rangle$ , resulting in  $\langle \text{o}, \text{d}\bar{\text{a}} \rangle$ , and the dative clitic pronoun  $\text{mi}$  is prefixed to the first element of this pair and results in  $\langle \text{mi}=\text{o}, \text{d}\bar{\text{a}} \rangle$ . The indicative string is derived by concatenating the two elements, resulting in  $\langle \text{mi}=\text{o} \text{ d}\bar{\text{a}} \rangle$ , whereas the imperative string is obtained by inverting the two elements of the pair, thus resulting in  $\langle \text{d}\bar{\text{a}}=\text{mi}=\text{o} \rangle$ .

After discussing and rejecting these two arguments for why clusters of clitic pronouns should be analysed as a lexical unit, I'd like to mention an argument for analysing these clusters as consisting of two units: only by analysing clitic pronoun clusters as consisting of two lexical units is it possible to explain why for example the cluster  $\text{t}\bar{\text{i}}=\text{o}$  (DAT.2SG=ACC.F.3SG) looks so much like the composition of  $\text{i}\text{t}\bar{\text{i}}$  and  $\text{o}$ . The trivial observation is simply that the shape of all clitic pronoun clusters is very similar to the composition of two clitic pronouns, and precisely this admittedly trivial observation cannot be captured if clitic pronoun clusters are analysed as lexical

units.

## 5 A sign-based alternative

In this section I will provide an alternative sign-based analysis of the verb cluster in Romanian. I will analyse (i) the order of the elements of the verb cluster, (ii) the obligatory phonological reduction of certain elements of the verb cluster, and (iii) the semantic combination of clitic pronouns with predicates. I will begin by presenting the necessary exponent functions. The two basic hypotheses about the exponent structure are (i) that verb exponents are pairs of strings with the verb itself being (part of) the second string, and (ii) that a verbal exponent is linearised differently depending on the construction. In the indicative, negative imperative and uninverted conditional constructions the first component of the pair is prefixed to the second component, while in the positive imperative, the gerund and the inverted conditional constructions the first component of the verbal exponent is suffixed to the second component. The fact that monosyllabic adverbs and the perfective marker never occur after the verb is then analysed by postulating that they attach to the second component of the verbal exponent (i.e. to the verb itself), and are thus unaffected by the linearisation. The fact that clitic pronouns and auxiliaries can occur both before or after the verb, but always in the same order  $DAT \prec ACC \prec AUX$  is then analysed by postulating that they attach to the first component of the verbal exponent (in a given order), and can therefore precede the verb if the first component of the verbal exponent is prefixed to the second, or follow the verb if the first component of the verbal exponent is suffixed to the second component (which contains the verb itself). In the second part I will argue that the phenomenon of obligatory phonological reduction of weak pronouns should be analysed in terms of exponent and categorial functions operating in parallel. In the third part of the analysis I will introduce the category functions, which essentially ensure that exponent functions can only apply in a certain order and to certain categories of exponents but not others. In the last part I will discuss the semantics of weak pronouns, put together the exponent, category and conceptual functions and present the modes of combination which taken together constitute the hypothesis about the structure of the Romanian verb cluster.

## 5.1 Exponent structure

**Exponent functions** As argued above, clitic pronouns have two properties that should be carefully distinguished: (i) their **position** with respect to the verb, and (ii) their **cliticisation** to an adjacent word. In my analysis both the position of the weak pronouns (as well as of the other elements of the verb cluster) and the obligatory phonological cliticisation of certain elements of the verb cluster will be analysed in terms of exponent functions. This section will first introduce and illustrate the exponent functions which are necessary for the analysis of the position of the elements in the verb cluster, and the next section will turn to the analysis of obligatory phonological reduction and thus to cliticisation.

One could try to account for the order of the elements in the indicative verb cluster by assuming that these elements are prefixed to the main verb in a certain order. Postulating that clitic pronouns are prefixed to the verb accounts for two important properties: First, no other word or phrase can occur between the weak pronoun and the verb, and secondly the order between clitic pronouns and auxiliaries is fixed. The challenge faced by such an approach is how to account for the postverbal occurrence of clitic pronouns and auxiliaries in the positive imperative, gerund, and inverted conditionals. An additional challenge is the analysis of the occurrence of the clitic pronoun *o* (ACC.F.3SG).

The idea that will be developed here is that verb clusters are generated as pairs of strings, and are then linearised differently depending on the construction. For example, in the positive imperative the clitic pronouns are generated in the same order as in the indicative construction, but in the positive imperative construction the weak pronouns and the imperative verb are inverted, whereas in the indicative construction the clitic pronouns are simply concatenated to the verb.

In order to do this, I shall make two basic hypotheses. First, I propose that the exponent of a verb is not a string but a pair  $\langle \varepsilon, V \rangle$  of strings, where  $\varepsilon$  is the empty string, and  $V$  is the (main) verb string. And secondly, I hypothesise that different constructions linearise the verbal exponent in one of two ways: either by prefixing or by suffixing the first component to the second component.<sup>6</sup>

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<sup>6</sup>On of the first implementations of the idea that syntactic rules operate on pairs of strings and not on strings can be found in ?. Groenink (1997) provides a general framework in which rules apply to  $n$ -tuples of strings, and not just pairs of strings. He also proves that if we restrict the rules operating on tuples of strings in a particular way, then a language can be generated by a grammar limited to these restricted rules if and only if the expressions of the language generated are parsable in polynomial time.

If an element of the verb cluster always occurs before the verb (monosyllabic intensifiers and perfective marker), it will be prefixed to the second string of the pair (i.e. the verb itself), whereas those elements which can occur either before or after the verb are prefixed to the first string of the pair. By prefixing an element  $e$  to the first string  $e_1$  of a pair  $\langle e_1, e_2 \rangle$  one achieves two important things at once: First one fixes the order between  $e$  and  $e_1$ , and secondly one delays the linearisation of  $e$  with respect to  $e_2$ . For example, the monosyllabic intensifier **mai** (still, again) will be directly concatenated to the verb **întreabă** (ask.3SG or ask.IMP), thus accounting for the fact that the order intensifier before main verb is invariant across constructions. The result of combining  $\langle \text{mai} \rangle$  and  $\langle \varepsilon, \text{întreabă} \rangle$  is  $\langle \varepsilon, \text{mai}_\perp \text{întreabă} \rangle$ . The accusative clitic pronoun **ne** (ACC.1PL), however, will not be prefixed to the string containing the main verb, but to the first string of the verbal exponent. So combining **ne** with  $\langle \varepsilon, \text{mai}_\perp \text{întreabă} \rangle$  results in  $\langle \text{ne}_\perp \varepsilon, \text{mai}_\perp \text{întreabă} \rangle$ , which equals  $\langle \text{ne}, \text{mai}_\perp \text{întreabă} \rangle$ , since the empty string is not visible.<sup>7</sup> This pair can then be linearised in two different ways. We can either prefix the first component (containing the clitic pronoun) to the verb, in which case we get the indicative order  $\langle \text{ne}_\perp \text{mai}_\perp \text{întreabă} \rangle$ , or we can suffix the first component to the second, in which case we get the imperative order  $\langle \text{mai}_\perp \text{întreabă}_\perp \text{ne} \rangle$ .

Thus the verb cluster is generated in two steps. First, a pair of strings is generated, and secondly the pair is linearised either by prefixing or suffixing the the first string to the second string.

Next I will discuss in detail the exponent functions which together characterise the exponent structure of the verb cluster.

The first exponent function  $f_1^\varepsilon$  applies to a string  $e_1$  and a pair of strings  $\langle e_2, e_3 \rangle$  and prefixes  $e_1$  to  $e_3$ . The idea is that this function attaches monosyllabic adverbs and the perfective marker to the verb. However, by virtue of being an exponent function,  $f_1^\varepsilon$  cannot itself distinguish types of exponents, and therefore applies indiscriminately to clitic pronouns, auxiliaries, monosyllabic adverbs, etc.. The application of this function will be restricted indirectly by associating it with a category function which requires that the first exponent  $e_1$  be of type ‘monosyllabic adverb’ or ‘perfective marker’.

$$f_1^\varepsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) = \langle e_2, e_1 \text{-} e_3 \rangle,$$

if  $e_2 = \varepsilon$ .

The second exponent function applies again to a string  $e_1$  and a pair of strings  $\langle e_2, e_3 \rangle$  and prefixes  $e_1$  to  $e_2$ . This function will be paired with a category function which ensures that exponent  $e_1$  is either an auxiliary or a

<sup>7</sup>Another way of putting this is to say that the empty string  $\varepsilon$  is the unit with respect to concatenation, see Kracht (2003, 18).

clitic pronoun.

$$f_2^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) = \langle e_1 \text{--} e_2, e_3 \rangle$$

The third exponent function also applies to a string  $e_1$  and a pair of strings  $\langle e_2, e_3 \rangle$ , and suffixes  $e_1$  to  $e_3$ . This function will be paired with a category function which requires that the exponent  $e_1$  be the clitic pronoun  $\circ$  (ACC.F.3SG).

$$f_3^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) = \langle e_2, e_3 \text{--} e_1 \rangle$$

The fourth exponent function applies to a pair of strings  $\langle e_1, e_2 \rangle$  and prefixes  $e_1$  to  $e_2$ . This function will be used to generate the order in the indicative, negative imperative and uninverted conditional constructions.

$$f_4^\epsilon(\langle e_1, e_2 \rangle) = \langle e_1 \text{--} e_2 \rangle$$

The fifth exponent function also applies to a pair  $\langle e_1, e_2 \rangle$  and suffixes  $e_1$  to  $e_2$ . This function will be used to generate the order in the positive imperative, gerund and inverted conditional constructions.

$$f_5^\epsilon(\langle e_1, e_2 \rangle) = \langle e_2 \text{--} e_1 \rangle$$

The sixth and last exponent function applies to two strings  $e_1$  and  $e_2$ , and prefixes  $e_1$  to  $e_2$ . This exponent function will be used to add the negation, the infinitive and the subjunctive markers.

$$f_6^\epsilon(\langle e_1 \rangle, \langle e_2 \rangle) = \langle e_1 \text{--} e_2 \rangle$$

The difference between  $f_2^\epsilon$  and  $f_6^\epsilon$  is that  $f_2^\epsilon$  applies to a string and a pair of strings, whereas  $f_6^\epsilon$  applies to two strings. If the negation was combined by means of  $f_2^\epsilon$  it would be predicted that it occurs after the verb in inverted constructions, which is contrary to fact. The same holds for the infinitive and subjunctive markers. If these elements can only be combined by  $f_6^\epsilon$ , which requires the second component to be a string as opposed to a pair of strings, the verbal exponent must be linearised before the negation, infinitive or subjunctive markers can attach.

The following exponent functions have thus been postulated:

$$\begin{aligned} f_1^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) &= \langle e_2, e_1 \text{--} e_3 \rangle, \text{ where } e_2 = \varepsilon \\ f_2^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) &= \langle e_1 \text{--} e_2, e_3 \rangle \\ f_3^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) &= \langle e_2, e_3 \text{--} e_1 \rangle \\ f_4^\epsilon(\langle e_1, e_2 \rangle) &= \langle e_1 \text{--} e_2 \rangle \\ f_5^\epsilon(\langle e_1, e_2 \rangle) &= \langle e_2 \text{--} e_1 \rangle \\ f_6^\epsilon(\langle e_1 \rangle, \langle e_2 \rangle) &= \langle e_1 \text{--} e_2 \rangle \end{aligned}$$

**Examples** I will illustrate the application of these exponent functions by providing the bottom-up derivations of the following verb clusters:

- (33) a. Nu mi=l=a mai trimis.  
 NEG DAT.1SG=ACC.M.3SG=have.3SG still send  
 He/she hasn't sent it(masc.) to me anymore
- b. Dã=mi=o.  
 give.IMP=DAT.1SG=ACC.F.3SG  
 Give it(fem.) to me.
- c. Ne=mai=având=u=l  
 NEG=still=have.GER=FIL=ACC.M.3SG  
 Not having it anymore

Since neither category nor conceptual functions have been introduced yet, I will only illustrate the derivation of the exponents, not the derivation of the complete signs. The cliticisation of clitic pronouns will be analysed in section 5.2. Consequently the following bottom-up derivations illustrate the analysis of the linear order of these verb clusters, but not the phenomenon of obligatory phonological reduction. So instead of actually deriving for example  $\langle \text{nu\_mi\_l\_a\_mai\_trimis} \rangle$  I shall actually derive  $\langle \text{nu\_îmi\_îl\_a\_mai\_trimis} \rangle$ .

**Derivation of Nu mi l-a mai trimis** The bottom-up derivation of this exponent will illustrate three points. First, the intensifier *mai* will be prefixed to the second element in the pair, whereas the auxiliary *a* and the clitic pronoun *l* will be prefixed in that order to the first element of the string. Secondly, the pair will be linearised by attaching the first element containing the clitic pronoun and the auxiliary to the left of the second element. Thirdly, the negation can only apply to a string, not to a pair of strings, and thus always occurs before clitic pronouns, auxiliary, intensifier and main verb.

The first step in the derivation of this exponent is the combination of the intensifier exponent  $\langle \text{mai} \rangle$  with the verb exponent  $\langle \varepsilon, \text{trimis} \rangle$ , by the exponent function  $f_1^\varepsilon$ .

$$f_1^\varepsilon(\langle \text{mai} \rangle, \langle \varepsilon, \text{trimis} \rangle) = \langle \varepsilon, \text{mai\_trimis} \rangle$$

The second step is the combination of the result with the auxiliary exponent  $\langle \text{a} \rangle$  by the exponent function  $f_2^\varepsilon$ :

$$f_2^\varepsilon(\langle \text{a} \rangle, \langle \varepsilon, \text{mai\_trimis} \rangle) = \langle \text{a\_}\varepsilon, \text{mai\_trimis} \rangle = \langle \text{a, mai\_trimis} \rangle$$

The third step is the combination of the result with the accusative clitic pronoun  $\langle \text{îl} \rangle$  by means of the same exponent function as in the previous

step,  $f_2^\epsilon$ :

$$f_2^\epsilon(\langle \hat{1}l \rangle, \langle a, mai\_trimis \rangle) = \langle \hat{1}l\_a, mai\_trimis \rangle$$

The fourth step is the combination of this exponent with the exponent for the dative clitic pronoun  $\langle \hat{1}mi \rangle$  by the same exponent function  $f_2^\epsilon$ :

$$f_2^\epsilon(\langle \hat{1}mi \rangle, \langle \hat{1}l\_a, mai\_trimis \rangle) = \langle \hat{1}mi\_l\_a, mai\_trimis \rangle$$

Next the two clusters are concatenated by the exponent function  $f_4^\epsilon$ , resulting in:

$$f_4^\epsilon(\langle \hat{1}mi\_l\_a, mai\_trimis \rangle) = \langle \hat{1}mi\_l\_a\_mai\_trimis \rangle$$

Lastly, this exponent is combined with the negation exponent  $\langle nu \rangle$  by means of the exponent function  $f_6^\epsilon$ :

$$f_6^\epsilon(\langle nu \rangle, \langle \hat{1}mi\_l\_a\_mai\_trimis \rangle) = \langle nu\_l\_a\_mai\_trimis \rangle$$

The phenomenon of obligatory phonological reduction of  $\hat{1}mi$  to  $mi$  and of  $\hat{1}l$  to  $l$  will be analysed in section 5.2.

**Derivation of Dă-mi-o.** This derivation will illustrate the alternative linearisation of the verbal exponent, i.e. the suffixation of the first element of the pair to the second element of the pair, resulting in postverbal clitic pronouns.

First the exponent of the accusative clitic pronoun  $\langle o \rangle$  is combined with the exponent of the imperative verb  $\langle \varepsilon, d\check{a} \rangle$  by means of the exponent function  $f_2^\epsilon$ :

$$f_2^\epsilon(\langle o \rangle, \langle \varepsilon, d\check{a} \rangle) = \langle o\_e, d\check{a} \rangle = \langle o, d\check{a} \rangle$$

Secondly, this exponent combines with the exponent of the dative weak pronoun  $\langle \hat{1}mi \rangle$  by means of the same exponent function  $f_2^\epsilon$ :

$$f_2^\epsilon(\langle \hat{1}mi \rangle, \langle o, d\check{a} \rangle) = \langle \hat{1}mi\_o, d\check{a} \rangle$$

Thirdly, the elements of the tuple are inverted by means of the function  $f_5^\epsilon$ :

$$f_5^\epsilon(\langle \hat{1}mi\_o, d\check{a} \rangle) = \langle d\check{a}\_l\_o \rangle$$

**Derivation of ne-mai-avându-l** The bottom-up derivation of this string illustrates two points. First it shows that the monosyllabic intensifier is not affected by suffixing the first element of the verbal exponent to the second (since it has been prefixed to the second element), and secondly it shows that the negation marker can be prefixed to a sting irrespective of how this string has been linearised.

First the exponent of the gerund verb  $\langle \varepsilon, \text{av}\hat{\text{a}}\text{nd} \rangle$  is combined with the monosyllabic intensifier  $\langle \text{mai} \rangle$  by means of the function  $f_1^\varepsilon$ :

$$f_1^\varepsilon(\langle \text{mai} \rangle, \langle \varepsilon, \text{av}\hat{\text{a}}\text{nd} \rangle) = \langle \varepsilon, \text{mai\_av}\hat{\text{a}}\text{nd} \rangle$$

Secondly, this exponent is combined with the exponent of the accusative clitic pronoun  $\langle \hat{\text{i}}\text{l} \rangle$  by means of the function  $f_2^\varepsilon$ :

$$f_2^\varepsilon(\langle \hat{\text{i}}\text{l} \rangle, \langle \varepsilon, \text{mai\_av}\hat{\text{a}}\text{nd} \rangle) = \langle \hat{\text{i}}\text{l\_}\varepsilon, \text{mai\_av}\hat{\text{a}}\text{nd} \rangle = \langle \hat{\text{i}}\text{l}, \text{mai\_av}\hat{\text{a}}\text{nd} \rangle$$

Thirdly, the two elements of the tuple are inverted by means of the function  $f_3^\varepsilon$ :

$$f_3^\varepsilon(\langle \hat{\text{i}}\text{l}, \text{mai\_av}\hat{\text{a}}\text{nd} \rangle) = \langle \text{mai\_av}\hat{\text{a}}\text{nd\_}\hat{\text{i}}\text{l} \rangle$$

Lastly, this exponent is combined with the negation exponent by means of the function  $f_4^\varepsilon$ :

$$f_4^\varepsilon(\langle \text{nu} \rangle, \langle \text{mai\_av}\hat{\text{a}}\text{nd\_}\hat{\text{i}}\text{l} \rangle) = \langle \text{nu\_mai\_av}\hat{\text{a}}\text{nd\_}\hat{\text{i}}\text{l} \rangle$$

The change of the vowel of the negation marker from **u** to **e** and the introduction of the vowel **u** between the verb and the clitic pronoun can be analysed by changing the exponent functions so that they operate not on strings of letters, but strings of sounds (see section reduction). The vowel **u** between verb exponent **av** $\hat{\text{a}}$ **nd** and the clitic pronoun **l** is introduced in order to facilitate the suffixation of the consonant **l** to the consonant **d**. The obligatory phonological reduction of  $\hat{\text{i}}\text{l}$  to **l** will be discussed below.

I will conclude this section with two important remarks. First, within the framework of sign grammars which I use, there is no theoretically relevant distinction between modes combining morphemes and modes combining words. The reason for this is that both morphemes and words are **signs**, and as such are combined together by modes. Some modes of combination may be grouped together and labelled morphological modes, since they combine morphemes, and some other modes may be labelled grammatical since they apply to words, but this labelling is of no theoretical importance. This is in line with the so-called syntax-lexicon continuum hypothesis that there is no principled distinction between syntax and lexicon.<sup>8</sup>

Secondly, note that the exponent functions cannot distinguish between dative and accusative clitic pronouns, or between clitic pronouns and auxiliaries. In fact they cannot distinguish the different elements of the verb cluster at all. For the purposes of the exponent functions all elements of the verb cluster are the same, namely exponents. In order to restrict the

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<sup>8</sup>See e.g. Croft (2001, 17).

application of exponent functions to certain types of exponents it is necessary to pair an exponent function with a category function which specifies the category of the exponents. The separation of exponent functions from category functions allows clitic pronouns to be combined with the verb by means of modes which have the same category function, but different exponent functions. Since e.g. accusative clitic pronouns are combined by means of modes having the same category function irrespective of the position of the pronouns relative to the verb, is not necessary in the present analysis to postulate additional categories (functional projections) in order to accommodate the different positions of a clitic pronoun with respect to the verb.

The category functions will be the topic of section 5.3, but before that I will first provide an analysis of obligatory phonological reduction in the Romanian verb cluster.

## 5.2 Obligatory phonological reduction

In this section I will provide an analysis of the fact that in some cases certain elements of the verb cluster obligatorily cliticise. It is often argued that since for example two clitic pronouns cliticise to one another they should be analysed as a lexical unit (i.e. as a unit which is listed as such in the lexicon). If by a lexical unit one means a basic sign which cannot be further subdivided into meaningful components, then there is in my view a very simple but persuasive reason for not analysing two clitic pronouns which cliticised to one another as a basic unit: unless we analyse clusters of weak pronouns as consisting of **two basic lexical units** which are phonologically integrated into **one prosodic unit**, it is impossible to explain why e.g. the cluster  $\text{t̪i}=\text{o}$  (DAT.2SG=ACC.F.3SG) consists of  $\text{t̪i}$  and  $\text{o}$ . The trivial observation is simply that the phonological form of all clitic pronoun clusters is **systematically related** to the phonological form of the two component clitic pronouns, and precisely this admittedly trivial observation cannot be captured if clitic pronoun clusters are analysed as lexical units. On such a view, this would be no more than a coincidence of diachronic development, a disappointingly weak conclusion. However, as we shall see, providing an account for this distribution is not unproblematic, since it essentially requires syntax and phonology to operate in parallel.

I will provide an analysis for the following three generalisations:

1. If two clitic pronouns are adjacent, both must occur in reduced form. So the correct form is  $\text{ti}=1 \text{ dau}$  (DAT.2SG=ACC.M.3SG give.1SG), whereas the expression  $\text{ît̪i} \text{ îl} \text{ dau}$  containing the unreduced forms is ungrammatical.

2. If a clitic pronoun occurs in front of vowel-initial auxiliary then it must occur in reduced form.
3. If clitic pronouns are postverbal they must occur in reduced form.

By definition, the exponent functions operate on tuples of strings of expressions, and expressions were taken to be sequences of letters. In order to account for obligatory phonological reduction, I will replace these assumptions by the following two assumptions: (i) expressions are sequences of sounds, and (ii) exponent functions manipulate not just the position of (strings of) expressions but also their phonological shape. The crucial point to bear in mind when analysing the above generalisations about obligatory phonological reduction is that these generalisations involve syntactic, categorial as well as phonological notions **simultaneously**. Take for example the second generalisation which says that if a clitic pronoun occurs in front of a vowel-initial auxiliary, then it must occur in reduced form. The notion ‘in front of’ is a syntactic notion, and will be implemented by exponent functions. The notion ‘auxiliary’ is a categorial notion, and therefore the reference made by a generalisation to this notion is implemented by means of category functions. And lastly, the notion ‘vowel-initial’ is a phonological notion, and therefore sensitivity of a generalisation to this notion is implemented again by means of exponent functions.

The theoretical relevance of the fact that these generalisations make reference to phonological and categorial notions **simultaneously** is that these generalisations cannot be analysed if the phonological rules apply after the syntactic rules. On the syntactic/categorial level it is not possible to capture the second generalisation, because the syntax cannot distinguish vowel-initial auxiliaries from consonant-initial auxiliaries. On the phonological level it is not possible to capture this generalisation either, since the phonology cannot distinguish the category of an expression. Therefore, it is necessary to give up the assumption that the phonological rules apply **after** the syntactic rules, and assume that phonological and syntactic rules apply **in parallel**.

To give an example, it is not the case that the dative clitic pronoun form  $\hat{\text{t}}\text{i}$  always reduces to  $\text{t}\text{i}$  when it precedes a vowel-initial phonological form – the grammatical form is  $\hat{\text{t}}\text{i}$   $\hat{\text{i}}\text{nca}\text{rc}$   $\text{tractorul}$  (DAT.2SG load.1SG tractor.DEF, I load your tractor). Reducing the clitic pronoun as in  $\text{t}\text{i}$   $\hat{\text{i}}\text{nca}\text{rc}$   $\text{tractorul}$  is ungrammatical. However, it is the case that this clitic pronoun always reduces if it precedes a vowel-initial auxiliary or clitic pronoun. So, crucially, obligatory cliticisation of an element  $a$  to an element  $b$  of the verb cluster depends on the syntactic category of  $b$ . In order to account for this generalisation it is necessary to pair exponent functions (which perform the phonological reduction) with corresponding category functions, so that

the category function can specify the categories of those exponents which must be obligatorily reduced. This is in essence the reason why phonological operations (implemented by means of exponent functions) **must** operate in parallel with category functions.

The obligatory phonological reduction of two adjacent clitic pronouns on the one hand and a clitic pronoun and a vowel-initial auxiliary on the other hand will be analysed in two steps. In the first step a new exponent function  $f_7^c$  will be introduced:

$$f_7^c(\langle e_1 \rangle, \langle e_2, e_3 \rangle) = \langle e'_1 e'_2, e_3 \rangle$$

where  $e'_1 e'_2$  is a phonological unit consisting in the phonologically reduced form  $e'_1$  of  $e_1$  and the reduced form  $e'_2$  of  $e_2$ .

In the second step, which will be presented in section 5.5, the exponent functions  $f_2^c$  (which simply concatenates) and  $f_7^c$  (which phonologically integrates) will be associated with different category functions, as part of the modes of combination which combine accusative and dative clitic pronouns with a verb cluster.

I will illustrate this new exponent function by combining the exponent  $/\mathfrak{its}^j/$  ( $\mathfrak{it}\mathfrak{i}$ , DAT.2SG) with the exponent  $\langle /i1/, /daw/ \rangle$ , where  $/i1/$  is the phonological representation of  $\mathfrak{i}1$  (ACC.M.3SG) and  $/daw/$  the phonological representation of  $\mathfrak{dau}$  (give).

$$f_7^c(\langle /i1/ \rangle, \langle /\mathfrak{its}^j/ \rangle) = \langle /tsil/, /daw/ \rangle$$

On the other hand, since the combination of  $/\mathfrak{its}^j/$  with the exponent  $\langle /voj/, /da/ \rangle$  (where  $/voj/$  is the phonological representation of  $\mathfrak{voi}$  (will), and  $/da/$  is the phonological representation of  $\mathfrak{da}$  (to give)) does not result in a phonological integration of  $/\mathfrak{its}^j/$  with  $/voj/$ , these two exponents should combine by means of exponent function  $f_2^c$ , resulting in:

$$f_2^c(\langle /i1/ \rangle, \langle /voj/, /da/ \rangle) = \langle /i1/ \_ /voj/, /da/ \rangle$$

In order to simplify notation I shall represent phonological entities by means of their orthographic correspondent, so that e.g.  $/tsil/$  will be represented by  $\mathfrak{ti}=1$ . It should however be kept in mind that the exponents, i.e. the units on which the exponent functions operate, are sequences of sounds and not sequences of letters.

Next I will turn to the analysis of the grammaticality of sentences (29a) and (29c) on the one hand (repeated below as (34a) and (34c)), and the ungrammaticality of sentence (29b) (repeated below as (34b)) on the other hand.

- (34) a.  $\text{M\~{a}nca=o=ar}$  mama.  
 eat.INF=ACC.F.3SG=would.3SG mother.  
 (She is so sweet that) mother would eat her.
- b. \*  $\text{o=ar}$  m\~{a}nca.  
 ACC.F.3SG=would.3SG eat.INF.  
 Int.: he/she would eat it(fem.)/her.
- c.  $\text{ar}$  m\~{a}nca=o.  
 would.3SG eat.INF=ACC.F.3SG  
 he/she would eat it(fem.)/her

The conditional auxiliary **ar** combines with the verbal exponent  $\langle \varepsilon, \text{m\~{a}nca} \rangle$  by means of exponent function  $f_2^\varepsilon$ , and results in  $\langle \text{ar}, \text{m\~{a}nca} \rangle$ . The combination of the clitic pronoun **o** (ACC.M.3SG) with  $\langle \text{ar}, \text{m\~{a}nca} \rangle$  by means of the exponent function  $f_7^\varepsilon$  results in:

$$f_7^\varepsilon(\langle \text{o} \rangle, \langle \text{ar}, \text{m\~{a}nca} \rangle) = \langle \text{o=ar}, \text{m\~{a}nca} \rangle$$

The application of the exponent function  $f_5^\varepsilon$  to this exponent results in:

$$f_5^\varepsilon(\langle \text{o=ar}, \text{m\~{a}nca} \rangle) = \langle \text{m\~{a}nca\_o=ar} \rangle$$

If instead of applying the exponent function  $f_5^\varepsilon$  we apply the exponent function  $f_4^\varepsilon$ , we derive the exponent in (34b), which is ungrammatical.

$$f_4^\varepsilon(\langle \text{o=ar}, \text{m\~{a}nca} \rangle) = \langle \text{o=ar\_m\~{a}nca} \rangle$$

In order to prevent the grammar from generating this expression, I postulate a phonological condition on exponent function  $f_4^\varepsilon$ , to the effect that it only applies provided that the first string in the exponent pair is **not** a monosyllabic unstressed prosodic word containing hiatus. So the modified version of exponent function  $f_4^\varepsilon$  is:

$$f_4^\varepsilon(\langle e_1, e_2 \rangle) = \langle e_1\_e_2 \rangle$$

if  $e_1$  is not a monosyllabic unstressed prosodic word containing hiatus.

Therefore this condition prevents the linearization of a pair of exponents whose first exponent is a monosyllabic unstressed prosodic word containing hiatus, and thus the generation of the string **o=ar\_m\~{a}nca**.

In the derivation of sentence (34c) the exponent function  $f_3^\varepsilon$  applies and concatenates **o** to the right edge of the second component of the verbal exponent:

$$f_3^\varepsilon(\langle \text{o} \rangle, \langle \text{ar}, \text{m\~{a}nca} \rangle) = \langle \text{ar}, \text{m\~{a}nca\_o} \rangle$$

In order to capture the third generalisation that postverbal clitic pronouns are always phonologically reduced, I shall replace the exponent function  $f_5^\epsilon$  with the exponent function  $f_8^\epsilon$ :

$$f_8^\epsilon(\langle e_1, e_2, e_3 \rangle) = \langle e'_2 e'_1 \rangle$$

where  $e'_2 e'_1$  is a phonological word consisting in the phonologically reduced form  $e'_1$  of  $e_1$  and the reduced form  $e'_2$  of  $e_2$ . Since, unlike with exponent function  $f_4^\epsilon$ , there is no restriction on the application of this exponent function, it is possible to apply this function to the exponent  $\langle \text{o=ar, mânca} \rangle$ :

$$f_8^\epsilon(\langle \text{o=ar, mânca} \rangle) = \langle \text{mânca=o=ar} \rangle$$

The replacement of the exponent function  $f_5^\epsilon$  with exponent function  $f_8^\epsilon$  prevents for example the generation of the string  $\text{dă}\_L\hat{\text{m}}\text{i}$ , and instead allows for the generation of the string  $\text{dă}=\text{m}\text{i}$ , where  $\text{m}\text{i}$  is the phonologically reduced form of the clitic pronoun  $\hat{\text{m}}\text{i}$ .

Summing up the revised set of exponent functions, we have:

- $f_1^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) = \langle e_2, e_1 \_ e_3 \rangle$ , if  $e_2 = \epsilon$ .  
This exponent function will combine the perfective marker and monosyllabic adverbs with the verb exponent.
- $f_2^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) = \langle e_1 \_ e_2, e_3 \rangle$   
This exponent function will combine auxiliaries and clitic pronouns with the verbal exponent.
- $f_3^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) = \langle e_2, e'_3 e'_1 \rangle$   
This exponent function will phonologically integrate the accusative clitic pronoun  $\text{o}$  to the right edge of  $e_3$ . Note that this clitic pronoun can also be combined by means of the previous exponent function.
- $f_4^\epsilon(\langle e_1, e_2 \rangle) = \langle e_1 \_ e_2 \rangle$ , if  $e_1$  is not a monosyllabic unstressed prosodic word containing hiatus.  
This exponent function will concatenate the first string to the left edge of the second string.
- $f_6^\epsilon(\langle e_1 \rangle, \langle e_2 \rangle) = \langle e_1 \_ e_2 \rangle$   
This exponent function will combine the negation and subjunction particle with the verbal exponent.
- $f_7^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) = \langle e'_1 e'_2, e_3 \rangle$  where  $e'_1 e'_2$  is the phonological unit resulting from the phonological integration of  $e_1$  and  $e_2$ .  
This exponent function will phonologically integrate the first string to the left edge of the second string.

- $f_8^\epsilon(\langle e_1, e_2 \rangle) = \langle e'_1 e'_2 \rangle$  where  $e'_1 e'_2$  is the phonological unit resulting from phonologically integrating  $e_1$  and  $e_2$ .

This exponent function will phonologically integrate the first string to the right edge of the second string.

### 5.3 Categories

As mentioned in the previous section, each exponent function is intended to apply to certain exponents but not to others. To illustrate, the exponent function  $f_1^\epsilon$  was meant to apply to monosyllabic adverbs and the perfective marker *fi*, but not to clitic pronouns and auxiliaries. On the other hand, the exponent function  $f_2^\epsilon$  was meant to apply to clitic pronouns and auxiliaries, but not to monosyllabic adverbs and the perfective marker. In order to implement these restrictions, it is necessary to distinguish **types** of exponents, and to restrict the application of particular exponent functions to particular types of exponents. This restriction is implemented by pairing exponent functions (within a mode of combination) with a category function which ensures that the exponents are of the required type. So within the mode combining monosyllabic adverbs and the perfective marker the exponent function  $f_1^\epsilon$  will be paired with a category function  $f_1^c$  which requires that the category of the first component be ‘monosyllabic adverb’ or ‘perfective’ respectively. Within the mode combining e.g. accusative clitic pronouns, the exponent function  $f_2^\epsilon$  will be paired with a category function  $f_2^c$  which requires that the category of the first component be ‘accusative clitic pronoun’.

The second important point is the restriction of the order in which the exponent functions can apply. Remember that in Romanian the dative clitic pronoun always occurs before the accusative clitic pronoun. As will be shown below, both the dative and the accusative clitic pronouns are combined with a verbal exponent by means the same exponent functions, i.e.  $f_2^\epsilon$  (concatenation) and  $f_7^\epsilon$  (phonological integration). Because of this, it is necessary to prevent these exponent functions from combining an accusative clitic pronoun, if a dative clitic pronoun has already been combined, since otherwise this exponent function would generate the ungrammatical order *ACC*  $\prec$  *DAT*. This can be achieved in one of three ways. First, by stipulating that the mode can only combine signs of a certain **formal** type. Secondly, by stipulating that it can only combine signs of a certain **conceptual** type, and thirdly, by a combination of formal and conceptual restrictions.

In the present analysis the order of application of the modes of combination which generate the verb cluster signs will be restricted by stipulating that these modes can only combine signs of a certain formal type. I will assume that the category of a verb root exponent contains the following three

attribute value pairs:  $1 : \star$ ,  $2 : \star$  and  $3 : \star$ . In the course of the derivation the value  $\star$  ( $\star$  is intended to mean “no value”, but is technically a value like any other value) will be replaced. The idea is that the attribute 1 stands for the person and number properties of the verb, while the attributes 2 and 3 stand for the person, number, gender and case properties of the accusative and dative clitic pronouns respectively. To give an example, the verb cluster  $\hat{\text{im}}\hat{\text{i}}\hat{\text{l}}\hat{\text{d}}\hat{\text{a}}\hat{\text{i}}$  (DAT.1SG=ACC.M.3.SG give.2SG) will have the category:

$$\begin{bmatrix} \text{CAT} & \text{V} \\ 1 & [\text{PER}:2, \text{NUM}:\text{SG}] \\ 2 & [\text{PER}:3, \text{GEN}:\text{M}, \text{NUM}:3, \text{CASE}:\text{ACC}] \\ 3 & [\text{PER}:1, \text{NUM}:3, \text{CASE}:\text{DAT}], \dots \\ \dots & \dots \end{bmatrix}$$

To simplify notation, I will write this attribute-value matrix as:

$$[V, 1 : 2SG, 2 : ACC.M.3SG, 3 : DAT.1SG]$$

The category function  $f_{AUX}^c$  combines the category auxiliary with the category of a verb root lacking auxiliaries and clitic pronouns, and results in a verb root category lacking clitic pronouns but containing an auxiliary. This is indicated by saying that the component verb root category has the value  $\star$  for the attribute AUX, whereas the resulting category has the value  $+$  for this attribute, and that both categories have the value  $\star$  for the attributes 2 and 3 (standing for the properties of the accusative and dative clitic pronouns).

The category function  $f_{ACC}^c$  of the mode which adds an accusative weak pronoun to the verbal exponent changes the value of 2 from  $\star$  to the X, where X is the attribute-value matrix describing the person, number, gender and case properties of the accusative clitic pronoun. The category function  $f_{DAT}^c$  of the mode which adds a dative clitic pronoun to the verbal exponent changes the value of 3 from  $\star$  to the Y, where Y is the attribute-value matrix describing the person, number, gender and case properties of the dative clitic pronoun.

The order of the elements in the first component of a verbal exponent will be implemented as follows:

1. The category function  $f_{AUX}^c$  requires that the values of 2 and 3 be  $\star$ . This essentially ensures that the mode adding an auxiliary cannot apply after a clitic pronoun has been added, since in this case the value of either 2 or 3 will not be  $\star$ . This precludes the order of auxiliaries before clitic pronouns.

2. The category function  $f_{ACC}^c$  requires that the value of 3 be  $\star$ . This precludes the application of this mode if a dative clitic pronoun has been added.

The order of the elements in the second element of the verbal exponent will be restricted semantically, by hypothesising that the semantic function of the mode which adds the perfective marker requires the predicate of the verbal sign to be unmodified by adverbs.

So the category function  $f_{AUX}^c$  is:

$$f_{AUX}^c([CAT : aux], [CAT : v, 2 : \star, 3 : \star, AUX : \star, \dots]) = \\ [CAT : v, 2 : \star, 3 : \star, AUX : +, \dots]$$

This category function thus makes sure that the first exponent is an auxiliary and that the second exponent does not contain auxiliaries or clitic pronouns.

The category function  $f_{ACC}^c$  is:

$$f_{ACC}^c(X, [CAT : v, 2 : \star, 3 : \star, \dots]) = \\ [CAT : v, 2 : X, 3 : \star, \dots]$$

where  $X = [CAT : wp, PER : X_1, GEN : X_2, NUM : X_3, CASE : acc]$

This function thus ensures that the first exponent is an accusative clitic pronoun, that the second exponent contains no dative clitic pronoun, and then it changes the value of the attribute 2 from  $\star$  to  $X$ .

The category function  $f_{DAT}^c$  is:

$$f_{DAT}^c(Y, [CAT : v, 3 : \star, \dots]) = \\ [CAT : v, 3 : Y, \dots]$$

where  $Y = [CAT : wp, PER : X_1, GEN : X_2, NUM : X_3, CASE : dat]$

This function ensures that the first exponent is a dative weak pronoun, and then it changes the value of the attribute 3 from  $\star$  to  $X$ .

The category function  $f_{ADV}^c$  is:

$$f_{ADV}^c([CAT : adv], [CAT : v, \dots]) = \\ [CAT : v, \dots]$$

which means that the combination of a monosyllabic adverb with the verbal exponent does not change the type of the verbal exponent.

The same goes for the category function  $f_{PFV}^c$ :

$$f_{PFV}^c([CAT : pfv], [CAT : v, \dots]) = \\ [CAT : v, \dots]$$

## 5.4 The meaning of clitic pronouns

So far I have discussed exponent and category functions. The last type of function to be discussed before presenting the modes of combination are the conceptual functions which combine the semantic values of the elements of the verb cluster. I will restrict myself to discussing only the conceptual functions combining the semantic values (the sense) of the weak pronouns with the semantic values of the verbs. But before doing so, I will first review the main argument why clitic pronouns should be analysed as having the same semantic value as the corresponding strong pronouns.

Consider the following two expressions:

- (35) a. **1=am**                      **semnat**  
 ACC.M.3SG=have.1 signed  
 We/I have signed it(masc.).
- b. **am**      **semnat**  
 have.1 signed  
 We/I have signed.

The basic observation is that the English translation contains the pronoun “it” if and only if the Romanian sentence contains the accusative clitic pronoun **1** (ACC.M.3SG). I take this to be sufficient motivation for analysing clitic pronouns as having the same meaning as stressable pronouns.

There is also a second, slightly more involved reason for assuming that clitic pronouns do indeed have a semantic value. This is that clitic pronouns are obligatory if the referent of a preverbal direct object is identifiable by both speaker and hearer, whereas they are impossible if the referent of a preverbal direct object is not identifiable. This correlation between the identifiability of a referent of a direct object NP on the one hand and the presence of a clitic pronoun on the other hand can be explained by hypothesising that the clitic pronoun does indeed have a semantic value. Note that an accusative clitic pronoun is not licensed if the preverbal direct object is the generic NP **fete**, which does not refer to any particular set of girls:

- (36) a. \***Fete nu le=am văzut.**  
 girls NEG ACC.F.3PL=have.1 seen  
 Int.: Girls I/we haven’t seen.
- b. **Fete nu am văzut.**  
 girls NEG have.1 seen  
 Girls I/we haven’t seen.

By hypothesis, the reason for the ungrammaticality of (36a) is that in this construction the accusative clitic pronoun is supposed to refer to the referent

of a preverbal direct object, but that it cannot do so since the preverbal direct object NP does not denote an identifiable referent.

Having motivated the analysis of clitic pronouns as being indeed pronominal in nature, I turn to the semantic function which combines the meaning of clitic pronouns with the meaning of verbs.

The semantic function belonging to the mode  $f_{ACC}$  (which combines accusative clitic pronouns with verbal signs) saturates the placeholder for the ground argument with the semantic value  $U$  of the clitic pronoun.

$$f_{ACC}^{\mu}(U, \text{PRED}\{G : -, \dots\}) = \text{PRED}\{G : U, \dots\}$$

The semantic function of the mode  $f_{DAT}$  combining dative clitic pronouns with a verbal sign saturates the placeholder for the background argument with the semantic value  $U$  of the clitic pronoun.

$$f_{DAT}^{\mu}(U, \text{PRED}\{BG : -, \dots\}) = \text{PRED}\{BG : U, \dots\}$$

Once the placeholder for the ground or background argument is saturated, it cannot be saturated again by another semantic value. What can, however, still be saturated is the semantic value  $U$  which saturates a placeholder, since  $U$  is an unsaturated value.

Note first of all that these semantic functions identify the placeholders only in virtue of their construal restriction, and not in virtue of the semantic roles assigned to the arguments saturating these placeholders, as argued for in section ???. Secondly, note that I have analysed the construal restrictions of the two placeholders of ternary predicates other than the placeholder for the figure argument to be different in Romanian. The reason for this is that the encoding of e.g. the thing given and the person receiving is different, and according to the basic assumption of Cognitive Grammar (which I share), the different encoding of semantic arguments is indicative of a different construal of arguments. In Siswati the encoding of the thing given and the person receiving is very similar, so that for Siswati it will be hypothesised in section ??? that both the placeholder for the thing given and the placeholder for the recipient have the same construal restriction – they can only be saturated by ground arguments.

## 5.5 The modes of combination

At this point we can put the exponent, category and semantic functions together and build the modes of combination. I shall start with the modes combining accusative clitic pronouns with a verbal sign. Mode  $f_{ACC_1}$  prefixes an accusative weak pronominal exponent to the first component of the verb

exponent, whereas the following mode  $f_{ACC_2}$  suffixes the accusative clitic pronoun  $\circ$  to the second element of the verbal exponent.

$$f_{ACC_1} \left( \begin{array}{l} \langle /e_1/ \rangle \\ \langle e_1 \rangle \\ [CAT : wp, CASE : acc, \dots] \\ U \end{array} \right), \left( \begin{array}{l} \langle /e_2/, /e_3/ \rangle \\ \langle e_2, e_3 \rangle \\ [V, 2 : \star, 3 : \star, \dots] \\ PRED\{G : -, \dots\} \end{array} \right) =$$

$$\left\{ \begin{array}{l} \left[ \begin{array}{l} f_7^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) \\ f_{ACC}^c([CAT : wp, CASE : acc, \dots], [V, AUX : +, 2 : \star, 3 : \star, \dots]) \\ f_{ACC}^\mu(U, PRED\{G : -, \dots\}) \end{array} \right] \\ \text{if } e_2 \text{ is vowel initial, or} \end{array} \right.$$

$$\left. \left[ \begin{array}{l} f_2^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) \\ f_{ACC}^c([CAT : wp, CASE : acc, \dots], [V, 2 : \star, 3 : \star, \dots]) \\ f_{ACC}^\mu(U, PRED\{G : -, \dots\}) \end{array} \right] \right.$$

$$\left. \begin{array}{l} \text{otherwise.} \end{array} \right.$$

If the string  $e_2$  is an auxiliary (as required by the attribute-value pair  $AUX:+$  of the verb category in the first case) which is vowel initial, then the accusative clitic pronoun combines by means of exponent function  $f_7^\epsilon$  which phonologically integrates the clitic pronoun to  $e_2$ . Otherwise the clitic pronoun combines by means of exponent function  $f_2^\epsilon$ , and thus is simply concatenated to the left of  $e_2$ . In the first case the categorial function  $f_2^c$  requires that the first string  $e_1$  is a clitic pronoun, that the string  $e_2$  is an auxiliary, and that the third string  $e_3$  does not contain any clitic pronoun. The effect of this requirement is that the accusative clitic pronoun cannot be combined **after** the dative clitic pronoun has combined with the verbal exponent, and since both accusative and dative clitic pronouns are prefixed to the first string, it is guaranteed that dative clitic pronouns always precede the accusative clitic pronouns.

In the second case there is no requirement that the string  $e_2$  is an auxiliary. Therefore this case applies if  $e_2$  is not vowel initial, irrespective of its category. This accounts for the fact that weak pronouns do not reduce if the auxiliary is not vowel-initial, or if the verb cluster contains no auxiliary. The semantic function  $f_2^\mu$ , saturates the placeholder for the ground argument with the semantic value  $U$  of the accusative clitic pronoun.

The mode  $f_{ACC_2}$  phonologically integrates the accusative clitic pronoun  $\circ$  (ACC.F.3SG) to the right edge of the second string of the verbal exponent.

$$f_{ACC_2} \left( \begin{array}{l} \langle e_1 \rangle \\ [CAT : wp, CASE : acc, \dots] \\ U \end{array} \right), \left( \begin{array}{l} \langle e_2, e_3 \rangle \\ [V, AUX : +, 2 : \star, 3 : \star, \dots] \\ PRED\{G : -, \dots\} \end{array} \right) =$$

$$\left[ \begin{array}{l} f_3^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) \\ f_{ACC}^c([CAT : wp, CASE : acc, \dots], [V, AUX : +, 2 : \star, 3 : \star, \dots]) \\ f_{ACC}^\mu(\mathbf{U}, \text{PRED}\{\mathbf{G}, \dots\}) \end{array} \right]$$

if  $e_1 = \text{o}$ ,  $/e_2/$  is vowel-initial.

Note that the exponent function of this mode differs from the corresponding two exponent functions of the previous mode. Instead of concatenating or phonologically integrating an accusative clitic pronoun to the first string of the verbal exponent, this mode phonologically integrates the accusative clitic pronoun to the second string of the verbal exponent. The phonological condition on this mode requires that the clitic pronoun be  $\text{o}$  (and thus prevents other accusative weak pronouns from being placed after the verb), and that the first string of the verbal exponent be vowel-initial. Secondly, there is a condition on the mode of combination which restricts its application to those cases where the first exponent is the clitic pronoun  $\text{o}$  and the first element of the verbal exponent is vowel-initial.

Note also that the clitic pronoun  $\text{o}$  (ACC.F.3SG) can be combined with a verb sign either by  $f_{ACC_1}$ , in which case it is concatenated or phonologically integrated to the left edge of the first component, or by  $f_{ACC_2}$ , in which case it is phonologically integrated to the right edge of the second string of the verbal exponent. The former case is necessary, as I have already shown, in order to derive e.g. the exponent  $\text{m\^a}nca=\text{o}=\text{ar}$  (eat.INF=ACC.F.3SG=would.3SG), while the latter is necessary in order to generate e.g. the exponent  $\text{ar m\^a}nca=\text{o}$  (would.3SG eat.INF=ACC.F.3SG). The exponent  $\text{o}=\text{ar m\^a}nca$  (ACC.F.3SG=would.3SG eat.INF) is ruled out, as argued in section 5.2, by a phonological condition on the exponent function  $f_4^\epsilon$ .

Since the category functions in both modes require the value of attribute 3 to be  $\star$ , it follows that these modes cannot apply to a verbal exponent which contains a dative clitic pronoun. This accounts for the fact that accusative clitic pronouns never occur before dative clitic pronouns in Romanian.

Consider next the mode combining dative clitic pronouns with the verb:

$$f_{DAT} \left( \left[ \begin{array}{l} \langle e_1 \rangle \\ [CAT : wp, CASE : dat, \dots] \\ \mathbf{U} \end{array} \right], \left[ \begin{array}{l} \langle e_2, e_3 \rangle \\ [V, 3 : \star, \dots] \\ \text{PRED}\{\mathbf{BG} : \rightarrow, \dots\} \end{array} \right] \right) =$$

$$\left\{ \begin{array}{l}
\left[ \begin{array}{l} f_7^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) \\ f_{DAT}^c([CAT : wp, CASE : dat, \dots], [V, 3 : \star, \dots]) \\ f_{DAT}^\mu(U, \text{PRED}\{\text{BG}:-, \dots\}) \end{array} \right] \\
\text{if the attribute-value pair } 2 : [CAT : wp, \dots] \text{ is part of } [V, 3 : \star, \dots], \text{ or} \\
\\
\left[ \begin{array}{l} f_7^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) \\ f_{DAT}^c([CAT : wp, CASE : dat, \dots], [V, 3 : \star, \dots]) \\ f_{DAT}^\mu(U, \text{PRED}\{\text{BG}:-, \dots\}) \end{array} \right] \\
\text{if (i) } e_2 \text{ is vowel-initial, and (ii) the attribute-value pair } \text{AUX}:+ \text{ is part of } [V, 3 : \star, \dots], \text{ or} \\
\\
\left[ \begin{array}{l} f_2^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) \\ f_{DAT}^c([CAT : wp, CASE : dat, \dots], [V, 3 : \star, \dots]) \\ f_{DAT}^\mu(U, \text{PRED}\{\text{BG}:-, \dots\}) \end{array} \right] \\
\text{otherwise.}
\end{array} \right.$$

This mode (i) phonologically integrates a dative clitic pronoun with an accusative clitic pronoun, if the latter is part of the verb exponent, (ii) phonologically integrates a dative clitic pronoun with a vowel-initial auxiliary, and (iii) simply concatenates a dative weak pronoun to the left edge of the first string of the verbal exponent. Semantically, this mode saturates the placeholder for the background argument with the semantic value of the weak pronoun.

The mode  $f_{AUX}$  is:

$$\begin{aligned}
f_{AUX} \left( \left[ \begin{array}{l} \langle e_1 \rangle \\ [CAT : aux] \\ X \end{array} \right], \left[ \begin{array}{l} \langle e_2, e_3 \rangle \\ [V, 2 : \star, 3 : \star, AUX : \star \dots] \\ \text{PRED} \end{array} \right] \right) = \\
\left[ \begin{array}{l} f_2^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) \\ f_{AUX}^c([CAT : aux], [V, AUX : \star \dots]) \\ f_{AUX}^\mu(X, \text{PRED}) \end{array} \right] = \\
= \left[ \begin{array}{l} \langle e_1 \dashv e_2, e_3 \rangle \\ [V, AUX : +, \dots] \\ \text{PRED} \end{array} \right]
\end{aligned}$$

The semantics of tense, aspect and monosyllabic adverbs will be ignored here and below. The requirement that the values of 2 and 3 be  $\star$  prevents this mode from applying after a clitic pronoun has been added. So the account for why the auxiliaries always occur after the clitic pronouns is a syntactic one. Alternatively, one could account for this restriction semantically, by

hypothesising that the semantic function  $f_{AUX}^\mu$  can only apply if the placeholders of the predicate are not yet saturated. Since the modes combining clitic pronouns with verbal signs saturate placeholders of the meaning of the verbal sign, it then follows that the auxiliary has to be combined before clitic pronouns, and that it is thus linearly “closer” to the verb than the clitic pronouns.

The mode combining a monosyllabic adverb with a verbal sign is  $f_{ADV}$ :

$$f_{ADV} \left( \begin{bmatrix} \langle e_1 \rangle \\ [CAT : adv] \\ \mathbf{X} \end{bmatrix}, \begin{bmatrix} \langle e_2, e_3 \rangle \\ [V, \dots] \\ \text{PRED} \end{bmatrix} \right) = \begin{bmatrix} f_1^\epsilon(\langle e_1 \rangle, \langle e_2, e_3 \rangle) \\ f_{ADV}^c([CAT : adv], [V, \dots]) \\ f_{ADV}^\mu(\mathbf{X}, \text{PRED}) \end{bmatrix} = \\ = \begin{bmatrix} \langle e_2, e_1 \dashv e_3 \rangle \\ [V, \dots] \\ \text{PRED}, \mathbf{X} \end{bmatrix}$$

if  $e_1$  is monosyllabic.

The mode combining the perfective marker **fi** with a verbal sign is:

$$f_{PFV} \left( \begin{bmatrix} \langle \mathbf{fi} \rangle \\ [CAT : pfv] \\ \mathbf{X} \end{bmatrix}, \begin{bmatrix} \langle e_2, e_3 \rangle \\ [V, \dots] \\ \text{PRED} \end{bmatrix} \right) = \begin{bmatrix} f_1^\epsilon(\langle \mathbf{fi} \rangle, \langle e_2, e_3 \rangle) \\ f_{PFV}^c([CAT : pfv], [V, \dots]) \\ f_{PFV}^\mu(\mathbf{X}, \text{PRED}) \end{bmatrix} = \\ = \begin{bmatrix} \langle e_2, \mathbf{fi} \dashv e_3 \rangle \\ [V, \dots] \\ \text{PRED}, \mathbf{X} \end{bmatrix}$$

if PRED is unmodified (by adverbs).

The restriction that the predicate of the verb be unmodified prevents the application of this mode if the verb has already been modified by an intensifying adverb, and has thus been prefixed with an intensifier. This accounts for the fact that the perfective marker (usually) occurs “closer” to the verb than monosyllabic intensifying adverbs.

The mode concatenating the two strings of an exponent is:

$$f_{CONC} \left( \begin{bmatrix} \langle e_1, e_2 \rangle \\ [V, \dots] \\ \text{PRED} \end{bmatrix} \right) = \begin{bmatrix} f_4^\epsilon(\langle e_1, e_2 \rangle) \\ f_{CONC}^c([V, MOOD : ind \vee inf, \dots]) \\ f_{CONC}^\mu(\text{PRED}) \end{bmatrix} = \\ = \begin{bmatrix} \langle e_1 \dashv e_2 \rangle \\ [V, MOOD : ind \vee inf, \dots] \\ \text{PRED} \end{bmatrix}$$

This mode prefixes the first component of a verbal exponent to the second component if the verb category is indicative or infinitive.

The last mode  $f_{INV}$  phonologically integrates the first string of a verbal exponent to the right edge of the second string, if the value of the MOOD attribute of the verb category is either conditional, imperative or gerund:

$$f_{INV} \left( \begin{array}{l} \langle e_1, e_2 \rangle \\ [V, MOOD : \alpha, \dots] \\ \text{PRED} \end{array} \right) = \begin{array}{l} f_8^\varepsilon(\langle e_1, e_2 \rangle) \\ f_{INV}^c([V, MOOD : \alpha, \dots]) \\ f_{INV}^\mu(\text{PRED}) \end{array}$$

if  $\alpha \in \{cond, imp, ger\}$ .

The functions  $f_{CONC}^c$ ,  $f_{INV}^c$ ,  $f_{CONC}^\mu$  and  $f_{INV}^\mu$  are all the identity function  $\lambda x.x$  (meaning that their application to an argument X results in X).

I will illustrate the application of these modes by deriving the sign whose exponent is **mai dā=mi=le** (give.IMP=DAT.1SG=ACC.3PL). The combination of the monosyllabic adverbial sign (with exponent) **mai** (still/again) with the sign **dā** (give.IMP) by means of  $f_{ADV}$  results in:

$$f_{ADV} \left( \begin{array}{l} \langle \text{mai} \rangle \\ [CAT : adv] \\ \text{AGAIN} \end{array} \right), \left[ \begin{array}{l} \langle \varepsilon, \text{dā} \rangle \\ [V, 1 : [PER : 2], 2 : \star, 3 : \star, MOOD : imp] \\ \text{GIVE}\{F : U_1, G : -, BG : -\} \end{array} \right] =$$

$$= \left[ \begin{array}{l} \langle \varepsilon, \text{mai\_dā} \rangle \\ [V, 1 : [PER : 2], 2 : \star, 3 : \star, MOOD : imp] \\ \text{GIVE}\{F : U_1, G : -, BG : -\} \end{array} \right]$$

The condition that  $e_1$  is monosyllabic is satisfied. The meaning contribution of the adverb will be ignored in the derivation.

Note that if we now combined the dative clitic pronoun first, this would result in the value of 3 being something other than  $\star$ . In this case it would not be possible to combine the accusative clitic pronoun next, since the modes combining accusative clitic pronouns require that the value of 3 be  $\star$ .

This sign combines with the sign **le** (ACC.3PL) by means of the mode  $f_{ACC_1}$ :

$$f_{ACC_1} \left( \begin{array}{l} \langle \text{le} \rangle \\ ACC.3PL \\ U_2 \end{array} \right), \left[ \begin{array}{l} \langle \varepsilon, \text{mai\_dā} \rangle \\ [V, 1 : [PER : 2], 2 : \star, 3 : \star, MOOD : imp] \\ \text{GIVE}\{F : U_1, G : -, BG : -\} \end{array} \right] =$$

$$\left[ \begin{array}{l} \langle \text{le, mai\_dā} \rangle \\ [V, 1 : [PER : 2], 2 : ACC.3PL, 3 : \star, MOOD : imp] \\ \text{GIVE}\{F : U_1, G : U_2, BG : -\} \end{array} \right]$$

The combination of this sign with the sign **îmi** (DAT.1SG) by means of mode  $f_{DAT}$  (the first case is satisfied, so the dative clitic pronoun is phonologically

integrated to the left of the accusative clitic pronoun) results in:

$$f_{DAT} \left( \begin{bmatrix} \langle \hat{i}mi \rangle \\ DAT.1SG \\ U_3 \end{bmatrix}, \begin{bmatrix} \langle le, mai\_d\check{a} \rangle \\ [V, 1 : [PER : 2], 2 : ACC.3PL, 3 : \star, MOOD : imp] \\ GIVE\{F : U_1, G : U_2, BG : -\} \end{bmatrix} \right) =$$

$$\begin{bmatrix} \langle mi=le, mai\_d\check{a} \rangle \\ [V, 1 : [PER : 2], 2 : ACC.3PL, 3 : DAT.1SG, MOOD : imp] \\ GIVE\{F : U_1, G : U_2, BG : U_3\} \end{bmatrix}$$

The last step in the derivation is the inversion of the two strings of the verbal exponent by means of  $f_{INV}$ . Note that in order for the verb cluster to be combined with e.g. nominal signs, it must consist of a string, and therefore it must be linearised. Since  $f_{CONC}$  cannot apply (the verb category is not indicative or infinitive), the application of mode  $f_{INV}$  is the only way of linearising this exponent.

$$f_{INV} \left( \begin{bmatrix} \langle mi=le, mai\_d\check{a} \rangle \\ [V, 1 : [PER : 2], 2 : ACC.3PL, 3 : DAT.1SG, MOOD : imp] \\ GIVE\{F : U_1, G : U_2, BG : U_3\} \end{bmatrix} \right) =$$

$$\begin{bmatrix} \langle mai\_d\check{a}=mi=le \rangle \\ [V, 1 : [PER : 2], 2 : ACC.3PL, 3 : DAT.1SG, MOOD : imp] \\ GIVE\{F : U_1, G : U_2, BG : U_3\} \end{bmatrix}$$

## 6 On the linguistic nature of ‘clitic pronouns’

### 6.1 Summary of the main claims

TODO

### 6.2 Comparison with other analyses

TODO

## 7 Conclusion

TODO

## References

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