

# An Optimality Theoretic Account for the Distribution of Pronominal Clitics in Romanian\*

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## 1 Introduction

The aim of this paper is to offer an OT-based account for the sequencing of pronominal clitics in Romanian.

## 2 Overview of Romanian clitic pronouns

The repertory of clitic elements in Romanian is larger than that in other Romance languages, and includes auxiliaries, adverbs and complementizers along with pronominal forms. Pronominal clitics are marked for case (accusative or dative) as well as person, number and gender. The complete list of pronominal clitic forms is given below.

### *Clitic Pronouns in Romanian*

	1st		2nd		3rd(masc)		3rd(fem)		reflexive
	sg.	pl.	sg.	pl.	sg.	pl.	sg.	pl.	
ACC	m(ă)	ne	te	v(ă)	(î)i	(î)i	o	le	se
DAT	(î)mi	ne, ni	(î)ți	v(ă), vi	(î)i	le, li	(î)i	le, li	(î)și

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With one notable exception, pronominal clitics precede the verb in the fixed order DATIVE-ACCUSATIVE,<sup>1</sup> irrespective of the person and number features of the pronouns. The order is the same with simple and composite verb forms. For pragmatic reasons (apparently related to discourse prominence), some combinations are not allowed; see Farkas & Kazasis (1980).<sup>2</sup>

- (1) a. mi le arată  
1.SG.DAT 3.PL.ACC show.3.SG.PRES.  
'(S/he) shows them to me.'
- b. mi le -a arătat  
1.SG.DAT 3.PL.ACC have show.PP  
'(S/he) showed them to me.'
- c. mi le va arăta  
1.SG.DAT 3.PL.ACC will show.INF  
'(S/he) will show them to me.'
- (2) *Pragmatically excluded clitic sequences*
- a. \*îi mă arată  
2.SG.DAT 1.SG.ACC show.3.SG.PRES.  
'(S/he) shows me to you.'
- b. \*vi te arată  
2.PL.DAT 2.SG.ACC show.3.SG.PRES.  
'(S/he) shows you to you.'
- c. ?și se arată  
REF.DAT REF.ACC shows.3.SG.PRES.  
'(S/he) shows him to himself.'

<sup>1</sup>Procliticization of pronominal clitics to the verbal complex is found in indicative mood. In the imperative and gerundive form, pronominal clitics are attached to the verb complex as enclitics in the DATIVE-ACCUSATIVE order. We will concentrate on the indicative mood. The account of the sequencing of pronominal clitics with non-indicative forms using the universal constraints illustrated in Section 5 will be left to future research.

<sup>2</sup>In this paper, we use the following abbreviations for the Romanian data: 1 = first person; 2 = second person; 3 = third person; ACC = accusative, DAT = dative, FEM = feminine; INF = infinitive; PL = plural, PP = past participle; PRES = present; REF = reflexive; SG = singular

### 3 Problem: exceptional behavior of *o*

The third person singular feminine form *o* seems to be an exception to this rule. When the verb appears in a simple tense form, the behavior of *o* is unexceptional: the clitic follows the dative and precedes the verb. When the verb is accompanied by an auxiliary, however, *o* can appear in enclitic position, and if the auxiliary begins with a vowel this position is obligatory.

- (3) a. mi -o arată (simple tense)  
 1.SG.DAT 3.FEM.SG.ACC show.3.SG.PRES.  
 '(S/he) shows her to me.'
- b. ne -o dă (simple tense)  
 1.PL.DAT 3.FEM.SG.ACC show.3SG.PRES.  
 '(S/he) gives her to us.'
- (4) a. mi -a arătat -o (composite tense)  
 1.SG.DAT have show.PP 3.FEM.SG.ACC  
 '(S/he) showed her to me.'
- b. \*mi -o a arătat (composite tense)  
 1.SG.DAT 3.FEM.SG.ACC have show.PP
- (5) a. îmi va arăta -o (composite tense)  
 1.SG.DAT will show.INF 3.FEM.SG.ACC  
 '(S/he) will show her to me.'
- b. mi -o va arăta (composite tense)  
 1.SG.DAT 3.FEM.SG.ACC will show.INF

There are two reasons why the erratic behavior of *o* cannot be accounted for in purely phonological terms: one is the fact that the enclitic position is available (though not obligatory) with auxiliaries beginning with consonants. The other is that the position of *o* with the lexical verb *avea* 'have' creates the same phonological context as the auxiliary but fails to trigger enclisis of *o*.<sup>3</sup>

<sup>3</sup> A recent study on Romanian pronominal clitics by Popescu (2000) advocates a purely phonological account for the erratic behavior of *o*. Although her account makes the correct predictions concerning the exceptional encliticization of *o* in combination with an auxiliary beginning with a vowel, it wrongly predicts the encliticization of *o* even in combination with the lexical verb *avea*. We would like to postpone the comparison of her account with ours to another opportunity.

- (6) a. am avut -o ⟨avea as auxiliary⟩  
 have have.PP 3.FEM.SG.ACC  
 '(I) have had her.'
- b. \*o am avut ⟨avea as auxiliary⟩  
 3.FEM.SG.ACC have have.PP
- (7) a. \*am o ⟨avea as lexical verb⟩  
 have.1.SG.PRES 3.FEM.SG.ACC
- b. o am ⟨avea as lexical verb⟩  
 3.FEM.SG.ACC have.1.SG.PRES  
 '(I) have her.'

#### 4 Previous studies

A recent study of cliticization in Romanian (Dobrovie-Sorin 1993) attempts to derive the order of clitic forms syntactically. The points in this account (henceforth D-S) which are relevant to the present analysis are the following:

- i. Pronominal clitics form a single constituent.
- ii. The difference in behavior between *o* and the other clitics with respect to clitic climbing is due to phonological reasons.

In this paper we will discuss only the details of this analysis which have a direct bearing on the placement of pronominal clitics. The first point to be noted is that, with respect to the order of clitics, D-S's analysis does not differ from template morphology: the DATIVE-ACCUSATIVE order is stipulated without comment. Second, although D-S suggests that the unique behavior of *o* is probably due to phonological reasons, she offers no concrete details.

#### 5 An OT-based account

The aim of this paper is to provide an account which derives the order of clitic pronouns on the basis of universal constraints, without recourse to language particular templates. The basic order DATIVE-ACCUSATIVE can be regarded as a consequence of the interaction of four alignment constraints on clitic pronouns. To explain the exceptional behavior of *o* we take into consideration the clitic nature of the auxiliary in Romanian and two phonological constraints.

### 5.1 The DATIVE-ACCUSATIVE order

There are two possible constraints on cliticization<sup>4</sup>:

(8)  $\text{Align}(\text{cl}, \text{R}, \text{host}, \text{L}) = \text{procliticization}$

$\text{Align}(\text{cl}, \text{L}, \text{host}, \text{R}) = \text{encliticization}$

The constraint  $\text{Align}(\text{cl}, \text{R}, \text{host}, \text{L})$  above requires that the right edge of the clitic element coincide with the left edge of its host. Satisfaction of this constraint results in left-adjunction of the clitic elements to its host, i.e., procliticization.  $\text{Align}(\text{cl}, \text{R}, \text{host}, \text{L})$  requires the inverse situation, yielding encliticization.

By applying these constraints to accusative and dative clitics we obtain the following four constraints. The abbreviations for the names of the constraints are at the right side of the arrow.

(9)  $\text{Align}(\text{acc}, \text{R}, \text{V}, \text{L}) = \text{accusative procliticization} \rightarrow \text{Align}(\text{accR})$

$\text{Align}(\text{acc}, \text{L}, \text{V}, \text{R}) = \text{accusative encliticization} \rightarrow \text{Align}(\text{accL})$

$\text{Align}(\text{dat}, \text{R}, \text{V}, \text{L}) = \text{dative procliticization} \rightarrow \text{Align}(\text{datR})$

$\text{Align}(\text{dat}, \text{L}, \text{V}, \text{R}) = \text{dative encliticization} \rightarrow \text{Align}(\text{datL})$

The proclitic position of the clitics can be regarded as the result of the following ranking, in which the proclitic alignment constraint dominates the enclitic alignment constraint.

(10) *General schema of procliticization:*

$\text{Align}(\text{cl}, \text{R}, \text{host}, \text{L}) \gg \text{Align}(\text{cl}, \text{L}, \text{host}, \text{R})$

Applying the general schema of procliticization shown in (10) to the Romanian pronominal clitic system, which includes accusative and dative clitics, we obtain the following constraint ranking.

(11) *Romanian:*

$\text{Align}(\text{accR}), \text{Align}(\text{datR}) \gg \text{Align}(\text{accL}), \text{Align}(\text{datL})$

The DATIVE-ACCUSATIVE order reflects the ranking in which the accusative *proclitic alignment* constraint dominates the dative *proclitic alignment* constraint.

<sup>4</sup>The abbreviation 'cl' means a certain clitic element 'R' and 'L' stand for the right edge and the left edge of a given element, respectively.

The basic order of pronominal clitic sequences in Romanian can be derived by means of the following ranking of constraints:

- (12) Align(accR)  $\gg$  Align(datR)  $\gg$  Align(accL), Align(datL)

This ranking predicts that a proclitic pronominal sequence will violate fewer constraints than an enclitic sequence, and that a proclitic accusative adjacent to the host is preferable to a dative one in the same position. An evaluation of the DATIVE-ACCUSATIVE-VERB order according to the ranking in (12) is illustrated in the tableau below.<sup>5</sup>

Tableau 1. *The basic clitic order: DAT-ACC V*

	Align(accR)	Align(datR)	Align(accL)	Align(datL)
a. DAT-ACC V		*	**	***
b. ACC-DAT V	*!		**	*
c. DAT V ACC	*!*		**	*
d. ACC V DAT		**!	**	*
e. V DAT-ACC	*!***	*	*	*
f. V ACC-DAT	*!*	**	*	*

We assume that violations of the alignment constraints are gradual, rather than binary. This assumption permits us to capture the difference between (a) and (d). The order in (d) is excluded because it incurs a double violation of the Align(datR) Constraint, whereas (a) violates this constraint only once.

We shall use the order in (d) to illustrate the manner in which the gradual violation of the alignment constraints is computed. We consider the left adjacent position as optimal, thus incurring no violation. The number of steps separating an element from the optimal position counts as the number of violations: if an element appears in a position left-adjoined to the optimal position, it will incur a single violation; if it appears in enclitic position adjoined to the host it will trigger a double violation, etc.

- (13) Position: P1  $\hat{\wedge}$  P2  $\hat{\wedge}$  best position  $\hat{\wedge}$  P3  $\hat{\wedge}$  P4  
 Number of violations: \*\* \* \* \*\*

<sup>5</sup>The OT notations relevant to this paper are as follows. an asterisk '\*' in the tableaux means a violation of a certain constraint, and an exclamation mark '!' indicates that the constraint violation is fatal in the evaluation; the shaded cells are irrelevant for the evaluation.

Tableau 1 illustrates the order of clitics when the host verb is in a simple tense. The same basic order obtains when the verb is in a composite tense. The auxiliary in Romanian is itself a clitic, and hence placed in a position immediately preceding the verb. This fact is captured by the following constraint. Since this constraint is ranked higher than the constraint on pronominal clitic alignment, the order in the clitic sequence will be: PRONOMINAL CLITIC-AUXILIARY.

- (14) **Align(aux, R, V, L):** Abbreviated Align-Aux. The auxiliary clitic must appear in left adjacent position to verb.

The introduction of the Auxiliary Alignment Constraint rules out sequences where an auxiliary precedes a pronominal clitic. It does not prevent, however, the possibility of split cliticization: sequences where pronominal clitics follow the verb, or where one clitic appears in proclitic position and another in enclitic position. Such sequences do not normally occur. Rather, it seems that cliticization generally follows a certain direction. To capture this tendency, we have introduced the Directional Integrity Constraint. In Tableau 5 it will be shown that — under specific conditions — this constraint can be violated. Thus, we do not regard this constraint as undominated.

- (15) **Directional Integrity (DI):** Cliticization should proceed in the same direction for all clitics of the same type.

This constraint forbids clitic attachment to both the right and left of the host for clitics of the same category (pronominal, auxiliary, adverbial). Adding these two constraints to the ranking in (12) yields the following:

- (16) Align-Aux  $\gg$  Align(accR)  $\gg$  Align(datR), DI  $\gg$   
Align(accL), Align(datL)

The evaluation of sequences containing two pronominal clitics and an auxiliary, according to the new ranking, is illustrated in the Tableau below.

Tableau 2. *The basic clitic order: DAT-ACC-AUX V*

	Align-aux	Align(accR)	Align(datR) ; DI	Align(accL) ; Align(datL)
a. DAT AUX ACC V	*!	.....	.....*	.....*.....
b. ACC AUX DAT V	*!	***	.....	.....*.....
c. *DAT-ACC AUX V		*	**	.....*.....
d. ACC-DAT AUX V		***!	.....*	.....*.....
e. DAT AUX V ACC		***!	.....*	.....*.....
f. ACC AUX V DAT		*	**	.....*.....
g. AUX V DAT-ACC		***!*	.....*	.....*.....
h. AUX V ACC-DAT		***!	.....*	.....*.....

## 5.2 Phonological constraints: Onset and NoHiatus

Dobrovie-Sorin suggests that the reason behind the exceptional behavior of *o* is phonological in nature, but does not offer any concrete analysis. Her intuition is very likely to be correct: *o* is different from other clitic pronouns, consisting of a single vowel. Taking into account the phonological shape of the clitic, it seems that its behavior could be due to Onset.

(17) **Onset:** A syllable must have an onset.

This constraint reflects the fact that a syllable with an onset is less marked than one without. In other words, a syllable beginning with a vowel will incur an Onset violation.

(18)  $[a]_{\sigma}$ : Onset violation,  $[ta]_{\sigma}$ : No Onset violation

This predicts that a sequence in which *o* precedes an element beginning with a vowel will result in an Onset violation. Such sequences violate another phonological constraint, one forbidding hiatus formation. We refer to this constraint as NoHiatus.

(19) **NoHiatus:** Avoid vowel sequences in adjacent syllables.

$*[.V]_{\sigma}[V..]_{\sigma}$ ,  $[VV]_{\sigma}$

Contemporary Romanian has a strong tendency to avoid Hiatus; see Hristea (1984) for a discussion of hiatus-avoiding strategies.

Nevertheless, Onset and NoHiatus violations only have a crucial effect on clitic placement when the clitic is followed by an auxiliary verb beginning with a vowel. This fact is due to the clitic nature of the auxiliary. Consequently,



Onset and NoHiatus are not undominated constraints. At this point, we could argue that phonological constraints play a crucial role in certain contexts where higher-ranked alignment constraints are insufficient for determining the optimal candidate. We discuss this problem in the following section.

### 5.3 Interaction between morpho-syntactic alignment and phonological constraints

Taking into account the strong tendency to avoid hiatus in Romanian, we shall rank NoHiatus higher than Onset. With regard to the alignment constraints, we shall assume a ranking which places NoHiatus on a par with Align(accR), and Onset on one with Align(datR). The ranking which incorporates the phonological constraints is given below.

- (20) Align-Aux  $\gg$  Align(accR), NoHiatus  $\gg$   
 Align(datR), DI, Onset  $\gg$  Align(accL), Align(datL)

The Tableaux 3-5 illustrate the evaluation for the optimal candidate in clitic sequences containing *o* and the verb *avea*, both as an auxiliary clitic and a lexical verb. Tableau 3 illustrates the case of lexical verbs, Tableaux 4-5 auxiliary verb evaluation. The ranking in (20) correctly predicts that the optimal position for *o* will be proclitic in lexical verb sequences, and enclitic in those involving auxiliaries. The presence of a dative clitic pronoun does not influence the position of *o*. Nevertheless, the ranking of the phonological constraints and the gradual nature of alignment constraint violations are crucial to this evaluation.

Tableau 3 *o am* '(I) have her.'

	Align-aux	Align(accR) : NoHiatus	Align(datR) : DI : Onset	Align(accL) : Align(datL)
<i>am o</i>		*	***	***
<i>am-o</i>		***	**	**

Tableau 3 illustrates the evaluation for cases in which *o* precedes a verb beginning with a vowel. Although this type of sequence results in violations of NoHiatus and Onset, the proclitic order is preferred because it does not violate the Align(accR) Constraint. The presence of an auxiliary changes the evaluation, due to its clitic-like nature. The fact that Align-aux is the undominated constraint rules out sequences in which a pronominal clitic intervenes between

the verb and auxiliary. As Tableau 4 illustrates, the role of Onset becomes crucial in deciding between a proclitic vs enclitic pronominal position. Due to the presence of the auxiliary, an Align(accR) violation is coupled with a NoHiatus violation. Evaluation thus becomes impossible at this level, and the optimal candidate is determined by lower ranked constraints.

The Onset violation plays a crucial role in deciding the optimal candidate, which is less marked than its competitor with respect to Onset. This situation could be understood as a case of the Emergence of the Unmarked (McCarthy & Prince 1994).<sup>6</sup> Tableau 5 illustrates the evaluation of a sequence containing *o*, a dative clitic, and an auxiliary. The proposed ranking again selects the optimal candidate correctly.

Tableau 4. *am vazut-o* '(I) saw her.'

	Align-aux	Align(accR) ; NoHiatus	Align(datR) ; DI ; Onset	Align(accL) ; Align(datL)
am-o dat	*!	.....	.....*	.....**
o-am dat		* .....		.....**
**am dat-o		** .....	.....*	.....**

Tableau 5. *ȕ-am dat-o* '(I) gave her to you.'

	Align-aux	Align(accR) ; NoHiatus	Align(datR) ; DI ; Onset	Align(accL) ; Align(datL)
ȕ-am-o dat	*!	.....	.....*	.....**
**ȕ-am dat-o		** .....	.....*	.....**
ȕ-o am dat		* .....	.....**	.....**
am dat-ȕ-o		***!	.....**	.....*
am dat-o-ȕ		** .....	***!	.....*

As noted earlier, the enclitic position of *o* is only obligatory when the verb is accompanied by an auxiliary that begins with a vowel. The future auxiliary *voi*, which begins with a consonant, allows both proclitic and enclitic placement of *o*. It must be noted, however, that the proclitic order is more common. Moreover, the acceptability of constructions with enclitic *o* deteriorates in embedded clauses or when a dative clitic is present. The ranking in (20) designates the proclitic order as optimal. Still, this is a desirable result in view of the facts

<sup>6</sup>The Emergence of the Unmarked, as initially advocated by McCarthy & Prince, refers to a situation where the lower ranked markedness constraint becomes decisive in a context where the higher ranked faithfulness constraint is unable to determine the evaluation of the correct candidate. In the case discussed here, the higher ranked alignment constraints play the same part as the faithfulness constraint in McCarthy & Prince. That is, when an auxiliary is added, in spite of their higher ranking, these constraints are unable to determine the choice of candidate.

mentioned above. We could account for the enclitic position of *o* with the future auxiliary in terms of Paradigm Integrity. On this analysis, the pattern in which *o* follows the verb in the future would be formed by analogy with auxiliary constructions where enclisis is obligatory.

Tableau 6. *o voi da, voi da-o* '(I) shall give her'

	Align-aux	Align(accR) : NoHiatus	Align(datR) : DI : Onset	Align(accL) : Align(datL)
*o voi da		*	*	***
voi da-o		**	*	

Tableau 7. *mi-o voi da, îmi voi da-o* '(S/he) will give her to me'

	Align-aux	Align(accR) : NoHiatus	Align(datR) : DI : Onset	Align(accL) : Align(datL)
*mi-o voi da		*	**	***
îmi voi da-o		**	*	

## 6 Conclusion

In this paper we have demonstrated that an OT-based account can explain the order of clitic pronouns in Romanian. Such an account has a natural advantage over others in not having to employ language-particular templates. Instead, it makes use solely of independently-motivated universal constraints. The position of *o* is only one of many problems surrounding the grammar of clitics in Romanian. Whether OT can offer a solution to all them is a question we shall have to answer through future research.

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## ルーマニア語代名詞接語の分布に関する 最適性理論に基づく説明

佐々木 冠・ダニエラ カルヤヌ

ルーマニア語の直説法動詞に接続する代名詞接語 (pronominal clitic) は「与格-対格」の順で動詞に前接する。ただし、これには例外がある。三人称女性単数対格の *o* は、単純時制においては他の代名詞接語と同様に動詞に前接するが、母音で始まる助動詞を伴った複合時制では、動詞に後接する。

本稿では、ルーマニア語代名詞接語の基本的な順序とそれに対する例外の双方を普遍的な接語配置制約と音韻制約の相互作用によって説明することを試みた。代名詞接語の基本的な順序は、以下に示す配置制約のランキングによるものと考えられる。

Align-Aux  $\gg$  Align(accR)  $\gg$  Align(datR), DI  $\gg$

Align(accL), Align(datL)

この制約ランキングのもとでは、前接語化 (encliticization) よりも後接語化 (procliticization) が好まれ、さらに「助動詞接語 > 対格接語 > 与格接語」の順で動詞の直前の位置にあることが要求される。

三人称女性単数対格の *o* が、母音で始まる助動詞を伴った複合時制において例外的に前接語 (enclitic) として現れるのは、Onset と NoHiatus という音節構造に関する2つの音韻制約と接語配置制約の相互作用によるものである。2つの音韻制約と接語配置制約は以下に示す制約ランキングを形成しているものと考えられる。

Align-Aux  $\gg$  Align(accR), NoHiatus  $\gg$

Align(datR), DI, Onset  $\gg$  Align(accL), Align(datL)

本稿のアプローチでは、これまで必要とされてきた個別言語固有の接語テンプレートに依存することなく、普遍的な制約の相互作用によってルーマニア語代名詞接語の順序における規則性と例外を説明することができる。

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