# The prosodic structure of the Romanian verbal complex

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**Introduction.** The Romanian verb can be accompanied by a number of morphemes which stack to its left, cf. (1). These morphemes do not bear primary stress and may be optionally reduced in fast speech. Pre-verbal pronominals, however, are obligatorily reduced in certain environments, regardless of speech rate. The resulting alternations in their surface forms have been analyzed as allomorphy (Barbu 1998) conditioned by the morphosyntactic status of each morpheme (Monachesi 2005), or as the result of clitic-specific phonological constraints (Popescu 2000). I argue for a more general analysis that derives these patterns from independently motivated phonological processes of Romanian.

**Descriptive generalizations.** Pre-verbal pronominals are unlike other pre-verbal particles in their rich patterns of alternation. I summarize these patterns in **A-C**.

**A.** Hiatus resolution: 1SG.ACC pronoun *mʌ* (2a) undergoes ʌ deletion before a vowel-initial auxiliary in (2b); 1PL.ACC pronoun *ne* (2c) forms a diphthong [e̯a] with the vowel-initial auxiliary in (2d);

**B.** High-vowel reduction: 1SG.DAT pronoun *mi* (shown before a consonant-initial pronominal in (3a)) surfaces as [*mj*] before vowel-initial pronominals and auxiliaries (3b), and [*mʲ*] elsewhere (3c);

**C.** ɨ insertion: 1SG.DAT *mi* (3a) surfaces as [*ɨmʲ*] when not followed by a pronominal or auxiliary (3c).

**Analysis**. Popescu's analysis appeals to clitic-specific constraints of structural economy and syllable markedness to derive patterns **A-C**. In contrast, I propose that these patterns are predictable from the general phonological grammar of Romanian. The relevant phonological processes are:

**i)** word-internal hiatus resolution, whereby a vowel is deleted or diphthongizes when followed by another vowel. Thus, the feminine desinence /ʌ/ (4a) is deleted before the affixal definite article /a/ (4b), while the feminine desinence /e/ (4c) diphthongizes in the same environment (4d). This parallels the process in **A**. It follows that both **i)** and **A.** can be subsumed under a general constraint *HIATUS.

**ii)** word-final high-vowel reduction, whereby the plural marker /i/ surfaces as a glide after a vowel (4e), as palatalization after a consonant (4f), or as a full vowel (4g). This is the same process as in **B** and can be captured by a constraint *V[+HIGH])$_{\text{PWORD}}$.

Crucially, the domain of both **i)** and **ii)** is the Prosodic Word (Chitoran 2002). This strongly suggests a prosodic constituent in the pre-verbal complex: the pronominals form a Prosodic Word with a following auxiliary, which adjoins to the PWord of its verbal host (see (5a-c)). Establishing this pre-verbal PWord further enables us to account for ɨ insertion (**C**). This arises from the interaction of the high-vowel constraint in **ii)** with a PWord minimality constraint, PWord ≥ 1σ, both outranking DEP.

Of special interest is (3d), where the 1SG.DAT pronominal *mi* is followed by an auxiliary, but displays the word-final high-vowel pattern **ii)** and ɨ insertion, surfacing as [ɨmʲ]. This suggests that consonant-initial auxiliaries fail to be absorbed into the previous PWord (5d). The difference between the PWord-internal auxiliary (3b/5b) and the PWord-external auxiliary (3d/5d) is not morphosyntactic, but phonological. Thus our prosodic analysis is better suited to capture this difference than previous analyses, which rely on morphosyntactic constituents as the domain of alternations **A-C**.

Finally, the PWord boundary after auxiliaries allows us to understand the unusual behavior of the 3S.ACC pronominal /o/, which fails to form a diphthong with a following vowel-initial auxiliary, departing from the pattern in (2d): ****o** *am adus*** (intended: 'I brought her'). Instead, it flips to the other side of the verb: *am adus-**o*** [amadus**o**]. Under the present account, this follows from the phonotactics of Romanian, which prohibits the diphthong /o̯a/ (but not /e̯a/) from word-final syllables (Renwick 2012).

**Conclusion.** The proposed prosodic constituency, together with general aspects of the phonological grammar of Romanian, is sufficient to generate the alternations we observe in the pre-verbal complex. Crucially, this analysis, which is robustly applicable to the entire verbal complex, obviates the need for referring to morphosyntactic distinctions or clitic-specific constraints.

1) *Maximal pre-verbal sequence* (declarative main clause)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ana | **nu** | **ți** | **l-** | **ar** | **mai** | **fi** | recomandat | pe Traian. |
| Ana | **not** | **you.DAT** | **him.ACC** | **COND.3S** | **again** | **PERF** | recommended | PE Traian |

'Ana would not have recommended Traian to you again.'

2) *hiatus resolution*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *ʌ deletes:* | a. | **[mʌ]** | aduc | b. | **[m]** | am | adus |
| | | **me.ACC** | bring | | **me.ACC** | IND.PERF.1S | brought |
| | | 'I bring myself.' | | | 'I brought myself.' | | |
| *e diphthongizes:* | c. | **[ne]** | aduc | d. | **[nẹ]** | am | adus |
| | | **us.ACC** | bring | | **us.ACC** | IND.PERF.1S | brought |
| | | 'I bring us.' | | | 'I brought us.' | | |

3) *high-vowel reduction* & *word-initial ɨ insertion* (from base case (a))

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *i reduces to j:* | a. | **[mi]** | te | aduc | b. | **[mj]** | am | adus |
| | | **me.DAT** | you.ACC | bring | | **me.DAT** | IND.PERF.1S | brought |
| | | 'I bring you to me.' | | | | 'I brought to me.' | | |
| *ʲ reduced from i,* | c. | **[ɨmʲ]** | aduc | | d. | **[ɨmʲ]** | voi | aduce |
| *ɨ inserted:* | | **me.DAT** | bring | | | **me.DAT** | IND.FUT.1S | bring |
| | | 'I bring to me.' | | | | 'I will bring to me.' | | |

4) *general phonological processes*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *ʌ deletes before a:* | a. | **[fatʌ]** | 'girl' | | | | b. **[fata]** | 'the girl' |
| *e diphthongizes:* | c. | **[karte]** | 'book' | | | | d. **[kartẹa]** | 'the book' |
| *final i reduced:* | e. | **[boj]** | 'oxen' | f. | **[lupʲ]** | 'wolves' | g. **[aʃ.tri]** | 'stars' |

5) *prosodic constituency* (for examples in (3))

| | | | | | |
|---|---|---|---|---|---|
| a. | ( (**mi**te)$_{PWd}$ | (aduk)$_{PWd}$ ) | b. | ( (**mj**am)$_{PWd}$ | (adus)$_{PWd}$ ) |
| c. | ( (**ɨmʲ**)$_{PWd}$ | (aduk)$_{PWd}$ ) | d. | ( (**ɨmʲ**)$_{PWd}$ | (vojaduʃe)$_{PWd}$ ) |

## References


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