

## Verbal mismatch in Right-Node Raising

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### 1. Phonological identity and RNR<sup>1</sup>

For Right-Node Raising (RNR), most theories assume phonological identity between the antecedent and the elliptical site (Chaves 2014), contrary to VP ellipsis (1a).

- (1) a. You already have clarified the situation and I will ~~clarify the situation, too~~.  
b. I certainly will ~~clarify the situation~~, and you already have, \*clarify/ %clarified the situation. (Pullum & Zwicky 1986)  
c. I certainly will ~~set the record straight with respect to the budget~~, and you already have, *set the record straight with respect to the budget*. (Pullum & Zwicky 1986)

According to Zaenen & Karttunen (1984), Pullum & Zwicky (1986), phonological identity may resolve syntactic mismatch, for example between the infinitive and the past participle in English RNR (1c). In (1b), P&Z note that some speakers accept *clarified* (hence the % sign), but *clarify* is always ruled out.

They also have examples with agreement mismatch, allowing only the syncretic form *are* (2b):

- (2) a. \*Either they or I are/am/is going to have to go.  
b. Either they or you are going to have to go. (Pullum & Zwicky 1986)

### 2. New data on English on RNR with verbal mismatch

We conducted a corpus study, using the COCA for English, and the internet for both English and French (restricting the results to official or well written web sites): this shows the existence of verbal mismatches without phonological identity for English (3) and for French (4). We found 15 examples without phonological syncretism for English and 14 examples without syncretism for French.

In (3a), there is phonological identity between the past participle and the infinitive (*who has come across my presence*), but not in (3b): *who has taken up the whole genome*.

- (3) a. I encourage anyone who has ~~come across my presence~~ or who will *come across my presence* to

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never limit yourself. (COCA [thecashlayproject.com/post/4690385610](http://thecashlayproject.com/post/4690385610))

b. To date very little is known about who has ~~taken up whole genome scanning services~~ and who will *take up whole genome scanning services*... (COCA [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov) ›)

In (4a), there is a phonological identity between the past participle and the infinitive but not in (4b):

(4) a. 48% ont déjà ~~relevé le salaire des cadres~~, ou vont, *relever les salaires de leurs cadres*, contre 47% en 2012 et 59% en 2011. '48% have already or will raise the executive salary, against 47% in 2012 and 59% in 2011' (<http://www.lavoixdunord.fr/>)

b. Les nouveaux modèles des constructeurs sont déjà ~~sortis~~ ou vont sortir.

'The new model models of manufacturers have already or will come out.' ([www.phonandroid.com/](http://www.phonandroid.com/))

In corpora, we did not find cases where the non syncretic form would be that expected in the first member: *\*To date very little is known about who has and who will taken up whole genome scanning services*.

The examples in (3) and (4) cannot be VP ellipsis. French does not have VP ellipsis: auxiliaries cannot appear without the participle (5a) (Abeillé & Godard 1996). In English, cataphoric VP ellipsis requires subordination of the ellipsis site in order to be acceptable, as shown by the contrast between (5b) and (5c).

(5) a. \*Jean a fini son travail, mais Marie n'a pas. (Jean has finished his work but Marie has not)

b. If you want to \_\_, you might as well take up the new project.

c. \*You want to \_\_, so you might as well take up the new project.

RNR and VP ellipsis can be distinguished by the intonation. In (3), a pause is necessary after the auxiliaries while there is no pause between the auxiliary and the verb in (5b).

For testing verbal mismatch with and without phonological syncretism in RNR, we conducted two on line acceptability judgment tests with written and spoken materials in French. For the written experiment, 24 target items (12 with syncretism, 12 without) are presented in three conditions: (a) with an ellipsis with a mismatch, (b) without ellipsis, (b) with ellipsis without mismatch (see table 1). 13 control items were grammatical and ungrammatical. 37 subjects rated the sentences from 0 to 10. They judged that RNR with verbal mismatch with (mean 6.9) and without phonological identity (mean 6.7) is as acceptable as RNR without mismatch (mean 6.8) (There is no significant effect between the conditions) and more acceptable than ungrammatical controls (mean 3).

### 3. Previous theories of RNR

Previous analyses of RNR in terms of movement (Ross 1967) or multiple dominance (McCawley 1982) do not expect mismatch between elided and present material. In HPSG, Yatabe (2001, 2012), Crysmann (2003), Beavers & Sag (2004) propose linearization-based HPSG analyses of RNR, and Chaves (2014) and Abeillé et al. (2015) a unary deletion rule. These analyses suppose phonological and categorical

identity between the missing elements and the right peripheral elements. According to Chaves (2014), morphophonological units in Morphophonology (MP) can be deleted under FORM feature identity. In LFG, Maxwell & Manning (1996) and Kuhn et al. (2010) propose a non-constituent coordination analysis, which does not take into account the possibility of mismatch. Syncretic forms have received special feature values in LFG (Dalrymple and Kaplan 2000) and in HPSG (Sag 2002) analyses of coordination.

However, the examples in (3b) (4b) suggest that the MP FORM mismatch is acceptable in English and in French. In case of conflict, the requirement of the second conjunct wins (for similar cases of mismatch of contentless prepositions or markers without syncretism, see Abeillé et al 2015). This may be due to an interference of a closest conjunct agreement phenomenon, which is independently attested in French nominal coordinations:

- (5) a. Il faut attendre que le, ou la *chanteuse* soit au top. (Bernard Tellez, *L'aube d'hiver de Barcelone*, 2010) ‘One must wait until the-masc or the-fem singer-fem is at the top.’  
 b. Cliquez sur *Oui* ou sur *Oui à tout* pour rediriger le ou les *travaux vers leur nouvelle destination*. (Gilles Lemaître, *Backup exec pour Windows server: sauvegarde et restau*, 2007)  
 ‘Click Yes or Yes to all to redirect the-sing or the-plu jobs to their new destination.’

Thus, we reject the analyses mentioned above and propose a revised analysis of RNR.

#### 4. Our HPSG analysis of RNR

The existence of RNR without phonological syncretism shows that lexeme identity plays an important role. In RNR without phonological syncretism, the past participle and the infinitive share the same lexeme. Homonyms cannot be shared as shown in (6). *Bat* means an animal and a sports instrument (6a) and *volé* means *stolen* or *flown* (6b).

- (6) a. # Robin swung and Leslie tamed *an unusual bat*. (Levine & Hukari 2006)  
 b. # On a des avions qui ont et des accusés qui n’ont pas *volé*.  
 ‘We have planes that have and defendants that have not flown/stolen.’

In order to analyze verbal mismatch without syncretism, we extend Chaves (2014) and propose to introduce the feature Lexical Identifier (LID) in Morphophonology (MP). Lexeme identity can be captured by the LID feature. The LID feature is used to individuate lexical items semantically: the value of LID is a list of semantic frames that canonically specify the meaning of a lexeme (Sag 2012).

*fait* (past participle)

*faire* (infinitive)

$$\left[ MP \left\langle \begin{array}{l} PHON \\ FORM \\ LID \end{array} \begin{array}{l} f\varepsilon \\ \\ \langle [faire - fr] \rangle \end{array} \right. \right]$$

$$\left[ MP \left\langle \begin{array}{l} PHON \\ FORM \\ LID \end{array} \begin{array}{l} f\varepsilon \\ base \\ \langle [faire - fr] \rangle \end{array} \right. \right]$$

We reformulate the RNR rule so that the shared elements are always those expected by the second conjunct.

$$\left[ \begin{array}{l} MP \quad L1 \oplus L3 \oplus L4 \oplus L2 \\ DTRS < [MP L1 \oplus < [LID l1], \dots, [LID ln] > \oplus L2 \oplus L3 \oplus L4: < [LID l1], \dots, [LID ln] > \oplus L2 > \end{array} \right]$$

**Figure 1. Rewrite rule for RNR**

**Appendix 1. French Experiment on verbal mismatch**

Target items for verbal mismatch with phonological syncretism	Target items for verbal mismatch without phonological syncretism
<p><b>Condition(a) RNR with mismatch</b></p> <p>Certaines agences immobilières ont déjà, ou vont bientôt fermer leurs portes.</p> <p>‘Some estate agents have already, or will soon close their doors.’</p>	<p><b>Condition(a) RNR with mismatch</b></p> <p>Quelques électeurs vont bientôt, ou ont peut être déjà rejoint le centre.</p> <p>‘Some voters will soon, or may have already joined the center.’</p>
<p><b>Condition(b) without ellipsis</b></p> <p>Certaines agences immobilières ont déjà fermé leurs portes, ou vont bientôt les fermer.</p> <p>‘Some estate agents have already closed their doors, or will soon close them.’</p>	<p><b>Condition(b) without ellipsis</b></p> <p>Quelques électeurs vont bientôt rejoindre le centre, ou l'ont peut être déjà rejoint.</p> <p>‘Some voters will soon join the center, or may have already joined it.’</p>
<p><b>Condition (c) RNR without mismatch</b></p> <p>Certaines agences immobilières ont juste, ou auraient depuis longtemps, fermé leurs portes.</p> <p>‘Some estate agents just have, or have for a long time closed their doors.’</p>	<p><b>Condition (c) RNR without mismatch</b></p> <p>Quelques électeurs auront bientôt, ou ont peut être déjà rejoint le centre.</p> <p>‘Some voters will soon have, or may have already joined the center.’</p>

**Table 1. Items for the French experiment**

From the bottom of my heart I want to thank everyone who has and who will purchase my books in the future. You cannot imagine how it fills my heart. <a href="http://www.amazon.com/Susan-Black/e/B00EN4EMH6">http://www.amazon.com/Susan-Black/e/B00EN4EMH6</a>
He is the one who has and who is bringing the light to hearts and lives in this dark world. <a href="http://www.stolaflutheran.com">http://www.stolaflutheran.com</a>
Chez VW, la mini-citadine et la Golf électrique, la Jetta Hybrid ou encore la e-Golf électrique ont déjà – ou vont prochainement – faire leur apparition dans les concessions. ‘In Volkswagen, city car and power Golf, Jetta Hybrid or e-Golf have already, or will soon appear in dealership.(breezcar.com 30 janv. 2014)

**Table 2. Examples of RNR without phonological syncretism**

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