Breaking Idioms with Right Node Raising

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BCGL 8: The Grammar of Idioms - 5 June, 2015

1 Overview

(1) **Right Node Raising** (RNR)

John wrote, and Mary reviewed, *a paper on verbs*. conjunct pivot

Analyses of RNR:

- (2) Across-the-board Movement

 John wrote [a paper on verbs], and Mary reviewed [a paper on verbs], [a paper on verbs].
- (3) *Ellipsis*John wrote a paper on verbs, and Mary reviewed, a paper on verbs.
- (4) *Multidominance*John wrote _, and Mary reviewed _, *a paper on verbs*.

Problem: (5a) has an idiomatic interpretation. (5b) does not.

- (5) a. John <u>kicked the bucket</u>. ('John died')
 - b. ⊖ John <u>kicked</u>, and Mary filled, <u>the bucket</u>. ("did John die..?")

We know idioms can undergo syntactic transformations and maintain idiomaticity (Fraser 1970, Machonis 1985, Gibbs and Nayak 1989), but not much is written on the interaction of idioms and RNR.

Questions

- **Primary**: What can we learn about idioms from Right Node Raising? How can RNR be used as a test for *analyzability* (decomposability)?
- **Secondary**: What can we learn about the structure of RNR from idioms? Can idioms be used to distinguish between the major analyses of the structure of RNR?

Notation

- (i) ⊖ John kicked, and Mary filled, *the bucket*.
- Θ = does not have idiomatic interpretation (i.e., literal only)
- \oplus = does have idiomatic interpretation (i.e., literal + idiom)
- tabs = idiomatic elements are underlined

2 Behavior of idioms in RNR

Idioms usually lose their idiomatic interpretation when in a right node raising configuration. Consider the example below.

- (6) ⊕ Chad kicked the bucket.
- (7) Θ Chad kicked, and Megan filled, *the bucket*.

More examples. In each of these cases, the only available interpretation for the sentence as a whole is a completely literal one. RNR blocking idiomatic interpretation never results in ungrammaticality.

- (8) First conjunct is idiomatic, second is literal
 - a. ⊖ Chad kicked, and Megan filled, the bucket.
 - b. ⊖ I heard that Ursula kicked, and my cousin's friend filled, *the bucket*.
 - c. \ominus Erick must not <u>let the cat</u>, but it doesn't matter whether Tomas will let the dog, <u>out of the bag</u>.
 - d. ⊖ Linda was afraid she was next to get, but her boss forgot, *the axe*.
 - e. ⊖ Tyler is dreading that he'll have to face, while Mary can't wait to listen to, *the music*.
 - f. ⊖ Kendra is the one who brings home, but Marco is better at cooking, *the bacon*.
 - g. Θ You should know that Elvis has left, but John has entered, *the building*.

These examples below show that directionality is not a factor, that is, in the flipped case where the second conjunct is idiomatic and the first is not, the idiomatic interpretation is still blocked.

- (9) First conjunct is literal, second is idiomatic
 - a. ⊖ Megan filled, and Chad kicked, the bucket.
 - b. ⊖ Eugene bought, and Rupa cut, *the cheese*.
 - c. Θ The junior senator only managed to set the Thames, but the senior senator successfully set the world, *on fire*.

The idioms are 'continuous' (*modulo* comma/prosody) but only literal.

2.1 Some ideas to consider

It's not just discontinuity: Raising, passives, parentheticals etc. do not usually block idiomatic interpretation¹:

- (10) The cat seems to be out of the bag.
- (11) The cat was let out of the bag.
- (12) $\underline{\text{The cat}}$, unfortunately, through a lapse of judgment, seems to have been $\underline{\text{let out of the}}$ $\underline{\text{bag.}}$

It's not just RNR: Another way RNR can interact with idioms is if the entire idiom is contained in the pivot. The idiomatic interpretation is possible:

This shows that it isn't simply in the presence of RNR that we lose idiomatic interpretation, that only happens in the cases above where a subpart of the idiom is in the pivot.

It happens cross-linguistically:

This example in Japanese from Kubota (2015) more closely mirrors our English data, where idioms in RNR are grammatical, but only literal.

- (14) ⊕ Isya-wa sazi-o nage-ta.
 doctor-TOP spoon-ACC throw-PAST

 'The doctor threw a spoon' (⊕ 'The doctor gave up') (Kubota 2015: 7)
- (15) ⊖ Isya-wa sazi-o, soshite kanzya-wa sara-o, *nage-ta*.
 doctor-TOP spoon-ACC and patient-TOP plate-ACC throw-PAST
 'The doctor (threw) a spoon, and the patient threw a plate.'
 (int. 'The doctor gave up, and the patient threw a plate.')

 $^{^1}$ Depending on the type of idiom though. [\ominus] The bucket was kicked by John. (Machonis 1985)

3 Background

3.1 Theoretical Background

- I adopt the basic assumptions of the Minimalist program as described below and proposed in Chomsky (1995, 2000, 2001).
- Basic operations: MERGE and AGREE. AGREE values features so they are legible to the interfaces. MERGE has *three* subcases:
 - External Merge: combines object A with B, where B is outside A
 - Internal Merge (Move): combines A with B, where B is inside A (Chomsky 2005: 12)²
 - Parallel Merge: combines A with B, where B is inside distinct object C (Citko 2005)

3.2 Multidominance

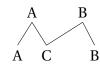
Parallel Merge makes possible multidominant, multi-rooted structures. In this paper I reserve the term "multidominance" or "multidominant structures" for structures created as a result of Parallel Merge (even though moved constituents, as a result of Internal Merge are also dominated by multiple mothers).

An operation of Parallel Merge is a two-step process, as described in Citko (2011):



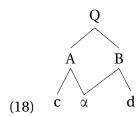


(17) Merge(B,C)



Linearization of multidominant structures

Wilder (1999): the Linear Correspondence Axiom (Kayne 1994) as it stands cannot linearize any multiple dominance trees (p. 9).



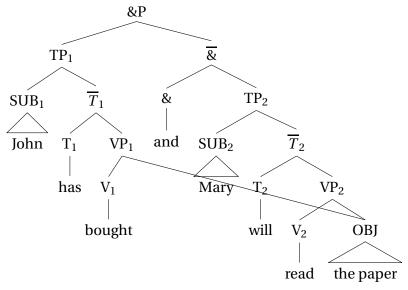
²About phases: where δ is an internally [re]merged (moved) constituent: "... the question arises how the actual spelling out of δ within the lower cycle can be prevented .. the information that δ has another, dominated parent, which would lead to [exemption from linearization] is no longer present after transfer [in the lower cycle] ... introduction of cycles in PF is highly problematic under a remerge account of displacement." (de Vries 2009: 390)

 α will end up preceding itself, violating the reflexivity condition in the LCA. Wilder proposes the following modification:

- (19) **Sharing**: α is shared by X and Y iff (i) neither of X and Y dominates the other, and (ii) both X and Y dominate α .
- (20) **Full dominance**: X fully dominates α iff X dominates α and X does not share α .
- (21) **Wilder's modification to the LCA** d(X) = the (unordered) set of terminals fully dominated by X

Let's examine how this works with a concrete example of linearizing RNR as MD. Here is the structure Wilder gives for a sentence containing RNR (assuming MD):

(22) RNR as MD: Structure given in Wilder 1999: p. 11, ex. 35 *John has bought, and Mary will read, the paper*



By the modified LCA in (21), the terminals *the, paper* are excluded from the *image* of both TP_1 and TP_2 , because these terminals are not fully dominated by either TP_1 or TP_2 . The asymmetric c-command pairs inside TP_1 and inside $\overline{\&}$, respectively are as follows:

- (23) a. John<has

bought<the<paper
 - b. and<Mary<will<read<the<paper

These are simply the set of c-command relations, not yet the *image* showing linear precedence, so the LCA conditions do not apply yet. To obtain the image of &P, we have to order (a) and (b) above. because TP_1 itself asymmetrically c-commands all the daughters of $\overline{\&}$, all the daughters of TP_1 in (a), except *the paper*, precede the daughters of $\overline{\&}$. This results in the correct RNR linear order:

(24) (John, has, bought) < (and, Mary, will, read, the, paper)

In this paper I will assume this linearization strategy.³

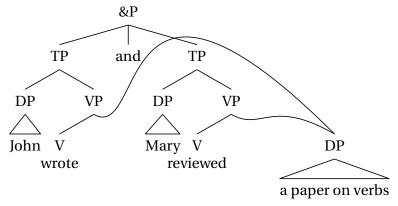
³A second problem related to the linearization of multidominance structures is: how can we distinguish between

3.3 Multidominance approach to RNR

Analyses: McCawley 1982, Wilder 1999, de Vos and Vicente 2005, Gračanin-Yuksek 2007, Johnson 2007, Bachrach and Katzir 2009, Grosz 2015, Kluck 2009, de Vries 2009, Citko 2011, Citko (to appear), among others

Outline: just one instance of the pivot that is combined with every conjunct simultaneously.

(25) A multidominance analysis of RNR *John wrote, and Mary reviewed, a paper on verbs*



Evidence in favor of a multidominance approach to RNR

Relational modifiers: if the pivot in RNR contains a relational adjective, like *same* or *different*, an internal reading obtains (Abbot 1976)

(26) John whistled, and Mary sang, the same tune.

The sentence underlying RNR in ellipsis analyses does not license internal readings:

(27) John whistled the same tune, and Mary sang the same tune.

Summative agreement: A second problem for ellipsis is the observation in Postal 1998 that the pivot usually contains summative agreement:

(28) Alice is happy that Beatrix, and Clair is proud that Diana, have (*has) traveled to Cameroon. (Grosz 2009)

This is unexplainable under ellipsis accounts where the individual conjuncts would have singular agreement, as illustrated with the potential underlying sentence below:

(29) Alice is happy that Beatrix *has* traveled to Cameroon, and Clair is proud that Diana *has* traveled to Cameroon.

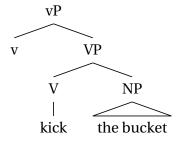
multidominance structures created as a result of parallel merge, and those created as a result of internal merge? This problem is tackled by de Vries (2009).

3.4 Bruening's 2010 analysis of idiomatic interpretation

Bruening's (2010) formal analysis of idioms: the following constraints on the availability of idiomatic interpretation for a given multiword expression, given below:

- (30) The Principle of Idiomatic Interpretation
 X and Y may be interpreted idiomatically only if X selects Y (p. 532)
- (31) Constraint on Idiomatic Interpretation

 If X selects a lexical category Y, and X and Y are interpreted idiomatically, all of the selected arguments of Y must be interpreted as part of the idiom that includes X and Y.
- (32) Lexical categories are V, N, A, Adv.⁴
- (33) A structure for kick the bucket



this idiom satisfies (30), and the combination of V and DP *kick the bucket* may have its idiomatic reading ("to die").

⁴Bruening rejects the Universal DP hypothesis and represents the structure of noun phrases with NP. For this paper I am going to proceed assuming all noun phrases are NP for the purposes of the idiom principles, but this assumption must be examined.

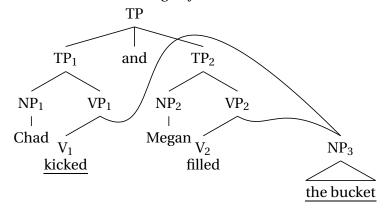
4 Analysis

I propose the following constraint:

(34) **Constraint on the interpretation of idioms in multidominant structures (CIMS)** the multiply dominated pivot must NOT be *partially shared* by idiomatic structure in order to allow idiomatic interpretation of the pivot (See (19) for sharing)

(35) Case 1: no idiomatic interpretation

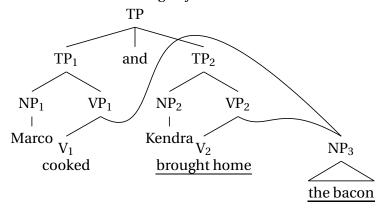
⊖ Chad kicked and Megan filled the bucket.



- NP₃ is shared by VP₁ and VP₂. NP₃ is selected by the idiomatic V₁ and follows Bruening's principles. So the idiom should be available...
- ... but it violates the constraint in (34) and the idiomatic interpretation is blocked.

(36) Case 2: no idiomatic interpretation

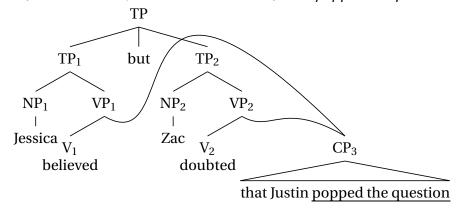
⊖ Chad kicked and Megan filled the bucket.



- NP₃ is shared by VP₁ and VP₂. NP₃ is selected by the idiomatic V₂ and follows Bruening's principles. So the idiom should be available...
- ... but it violates the constraint in (34) and the idiomatic interpretation is blocked.

(37) Case 3: idiomatic interpretation

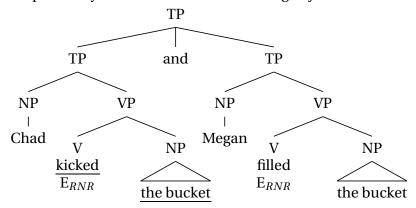
⊕ Jessica believed, but Zac doubted that Justin popped the question.



- CP₃ is shared by VP₁ and VP₂. CP₃ not *partially shared* by idiomatic material, in fact it is not shared by idiomatic material at all,
- ... it does not violate (34) and the idiomatic interpretation is not blocked.

4.1 Ellipsis analysis

(38) Ellipsis analysis of ⊖ *Chad kicked and Megan filled the bucket.* (after Ha 2008)



- Bruening's theory predicts that the idiomatic interpretation is available in an ellipsis analysis. The idiom adheres to (30): V selects the NP, so X and Y may be interpreted idiomatically.
- I can't propose a similar principle like (34) because in uncontroversial instances of ellipsis, such as VP-ellipsis, the idiomatic reading survives, as in (39).
- (39) ⊕ John <u>kicked the bucket</u>, and ⊕ Bill did <u>kick the bucket</u> too. ('John died, and Bill died.')

4.2 Consequences 1: Idiom extension

There are some interesting cases where idioms in RNR *do* have an idiomatic interpretation, made available by *extending the idiomatic interpretation* to the second, typically unidiomatic conjunct.

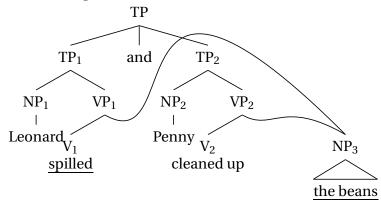
- (40) Leonard was quick to spill, but Penny came around to help clean up, *the beans*.
- (41) \oplus By working on binding theory Hugh <u>has a tiger</u>, but by working on coordination Ian has a whole pride of lions, *by the tail*.

This is one possible way to formalize this:

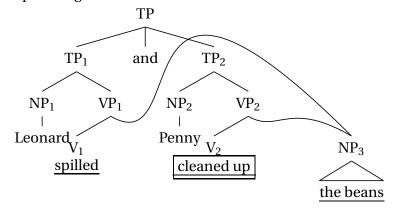
(42) **Idiom spreading under sharing (Working)**

If α is shared by P and Q, and

- (i) P and α may be interpreted idiomatically, then
- (ii) Q and α may be interpreted idiomatically, to the extent that they're analyzable.
- (43) Multidominance analysis of
 - (40, simplified) ⊕ *Leonard spilled and Penny cleaned up the beans.*
 - a. Idiom interpretation



b. Spreading:



An ellipsis account has no idiomatic material in the second conjunct:

(44) \oplus Leonard was quick to <u>spill the beans</u>, but \ominus Penny came around to help clean up, *the beans*.

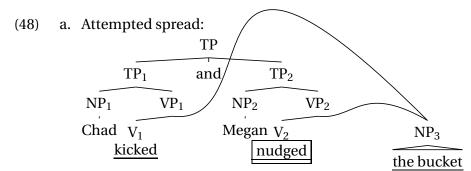
4.3 Consequences 2: Analyzability

- Idioms range from the highly analyzable (*pop the question*) to the less analyzable (*kick the bucket*). (Gibbs et al. 1989, Svenonius 2005)
- "Analyzable" refers to the degree to which the parts of an idiom can be readily metaphorically related to other meanings that combine to give an idiomatic interpretation.
- The experiment in Hamblin and Gibbs 1999 demonstrated that the idiomatic interpretation of idioms can be preserved even when the verb is replaced, but only under a set of conditions.
- Participants rated the idiom *punt the bucket* as "similar" to the original, and the phrase *nudge the bucket* as "dissimilar" to the original. They conclude: "it seems that nondecomposable idioms may actually be lexically flexible to some degree" (Hamblin and Gibbs 1999: 33)
- The behavior of idioms with RNR reflects these judgments, if part of the idiom in the second, contrasting conjunct is replaced with a too-dissimilar element, the idiomatic interpretation is unavailable.
- (45) Analyzable idiom, but second conjunct is too-dissimilar
 - a. ⊖? Alex had a <u>bun</u>, and Kerry had a three-bean casserole _, <u>in the oven</u>.
 - b. ⊖? The so-called "Emperor of Canada" definitely has <u>bats</u>, but the actual "King of Mexico" just has cobwebs, *in his belfry*.
 - c. ⊖? The harsh review of the movie was just <u>rubbing salt</u>, although the director's friends tried to rub sugar, <u>on his wounds</u>.
- (46) ⊖ Chad kicked, and Megan filled, *the bucket*.
- (47) a. ⊕ Chad kicked, and Megan punted, the bucket.

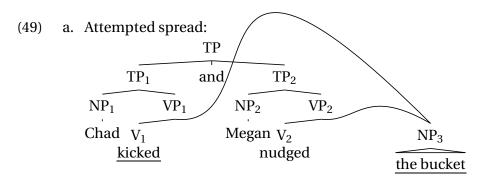
[similar]

b. ⊖ Chad kicked, and Megan nudged, *the bucket*.

[dissimilar]



But *nudge* is too dissimilar a verb, so *nudge the bucket* cannot be interpreted idiomatically.



THEN (48) is broken, we're back at our base case (49): the pivot is no longer *shared* by idiomatic structures – so the whole sentence disallows idiomatic interpretation. Ellipsis would be unable to distinguish (47a) from (47b).

- (50) a. \oplus Chad kicked the bucket, and \ominus Megan punted the bucket.
 - b. \oplus Chad kicked the bucket, and \ominus Megan nudged the bucket.

5 Summary

Here is a summary of what was covered above, about the various configurations of idioms and RNR, and what the accounts say about them:

- (51) **Base case**: Chad kicked, and Megan filled, the bucket.
 - a. Ellipsis predicts that the idiomatic interpretation is available. It overgenerates meanings.
 - b. Multidominance predicts that the idiomatic interpretation is available. It also overgenerates.
- (52) **Idiom extension**: Leonard was quick to spill, but Penny came around to help clean up, the beans.
 - a. Ellipsis predicts the conjuncts can be independent with regards to interpretation yielding a half-idiomatic, half-literal interpretation. It overgenerates meanings here.
 - b. Multidominance simply predicts that the idiomatic interpretation is available in the first conjunct. It says nothing about extension, but it doesn't yet rule it out based on Bruening's principles or overgenerate meanings.
- (53) **Analyzability**: *Chad kicked, and Megan punted/nudged, the bucket.*
 - a. Ellipsis overgenerates and undergenerates meanings. In the sentence with *nudged*, it predicts that the first conjunct can be idiomatic, counter to fact. It also predicts that the second conjunct won't ever be idiomatic, using either *punted* or *nudged*, counter to fact.
 - b. Multidominance predicts that the idiomatic interpretation of the first conjunct is available. Again it says nothing about extension to *punted* or *nudged*, but it doesn't rule extension out or overgenerate.

Right Node Raising can be used to help classify idioms by their analyzability, based on whether or not it is possible to extend their interpretation by modifying the second conjunct.

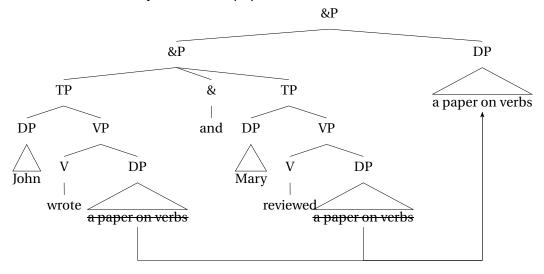
Alternative approaches to RNR

Movement approaches to RNR

Analyses: Ross 1967, Sabbagh 2007, 2008, Clapp 2008, Abe and Hornstein 2012, among others (and responses in Larson 2011, 2012)

Outline: all copies of the pivot are base-generated within the conjuncts. ATB-movement applies to all instances of the pivot and adjoins a single copy of the pivot to some position external to the coordinate structure.

(54) A movement-based analysis of RNR *John wrote, and Mary reviewed, a paper on verbs.*



Evidence for a movement approach

Complement PPs: Stowell (1991): PP complement of adjectives like *wonderful* cannot be moved:

- (55) a. That was wonderful of John.
 - b. * Of whom was that wonderful _?

Postal (1998) the same set of adjectives prohibits RNR constructions:

(56) * That may have been wonderful, and probably was wonderful, of the person who I had just met in the park.

CSC: Wexler and Culicover (1980): the Coordinate Structure Constraint (CSC) (Ross 1967) holds on RNR:

(57) a. * Tom is writing an article on Aristotle and _, and Elaine has just published a monograph on Mesmer and _, Freud.

(violating CSC-I: don't extract whole conjuncts; from McCawley 1982)

b. * Joss wrote _, Mary was reviewing a paper about semiotics, and Paul wanted to read _, a paper about RNR

(violating CSC-II: don't extract parts of conjuncts; from Sabbagh 2007)

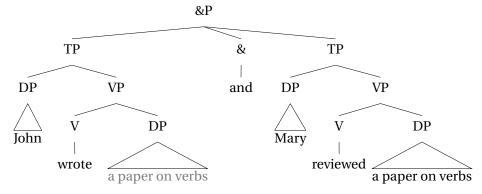
Scope: Of interest to us is that there is another interpretation of this sentence, where the pivot takes wide scope over the coordinate structure: that is, for every patient, there may have been a different nurse administering medical attention (inverse scope). (Sabbagh 2007)

(58) Some nurse gave a flu shot, and administered a blood test, to every patient who was admitted last night to the ER.

Ellipsis approaches to RNR

Analyses: Wexler and Culicover 1980, Kayne 1994, Bošković 2004, Ha 2008, among others **Outline**: copies of the pivot are base-generated in all conjuncts. Only the last copy is pronounced.

(59) An ellipsis-based analysis of RNR *John wrote, and Mary reviewed, a paper on verbs.*



Evidence in favor of an Ellipsis account of RNR

RNR shares properties with ellipsis: Many well-established properties of ellipsis also show up in RNR, including: Vehicle Change effects, morphological mismatches, sloppy identity, parallelism, to name a few.

Morphological mismatch For example: morphological identity between elided element and antecedent is not a precondition for elision.

(60) Alice [$_{VP}$ sleeps in the office] everyday, but Bob only does [$_{VP}$ Δ] on Friday. Δ = sleep in the office

The same property is observed in RNR:

(61) John hasn't Δ , but Bill may be , questioning our motives. $\Delta = \text{questioned our motives} \tag{Bošković 2004}$

RNR appears to affect non-constituents: RNR sometimes involves a portion of structure that does not align with the notion of a syntactic constituent.

The following example in Korean shows an RNR sentence, where the pivot is clearly a non-constituent:

(62) Tomo-nun Ana-ka ppang-ul mekess-tako malhayssta kuliko Nina-nun Ana-ka
T-top A-nom bread-acc ate-comp said and N-top A-nom
bap-ul mekess-tako malhayssta
rice-acc ate-comp said
'Tomo (said that) Ana (ate) bread, and Nina said that Ana ate rice.'

(An 2007: 142)

Even more approaches to RNR

- three-dimensional phrase structure (Duman 2003)
- null anaphor (a movement account without ATB-movement) (Kimura 1986)
- conjunction reduction (te Velde 2006)
- post-syntactic linearization-based deletion phenomenon (Chaves 2007, 2014)
- syntactically-incomplete structure rescued by pragmatic inference (Larson 2013a,b).
- hybrid (heterogenous, eclectic) accounts, such as Barros 2010, Barros and Vicente 2011, Valmala 2013, Chaves 2014 that argue that RNR is not a unified phenomenon, and should be analyzed using more than one strategy in certain cases.

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