

Idioms in Non-restrictive Relative Clauses

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Overview

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Introduction

There are at least two types of idioms:

- (1) a. kick the bucket 'die' (non-decomposable)
- b. pull strings 'use connections' (decomposable)

Decomposable idioms can be split across a main clause and a restrictive relative clause (RRC):

- (2) a. *The bucket [_{RRC} that Chris kicked] shocked us all.
- b. The strings [_{RRC} that Chris pulled] got Kim the job.

Even decomposable idioms cannot be split across a main clause and a non-restrictive relative clause (NRC) (Vergnaud 1974, Fabb 1990):

- (3) *The headway, [_{NRC} which the students made last week], was phenomenal.

Introduction

Arnold & Bargmann (2016):

A single part of a decomposable idiom can occur within an NRC.

- (4) The strings that I pulled for you before,
[NRC which I hereby promise I will pull for you again],
will get you the job.

In this talk, we will ...

- discuss the conditions under which idiom parts can occur in NRCs.
- show other interactions of NRCs and idioms.
- connect this to an update-based approaches to NRCs.

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Decomposable flexible idioms (DFIs)

Nunberg et al. (1994): An idiom is ...

- *semantically decomposable* iff parts of the idiom can undergo some semantic operation (modification, ...), i.e. have an idiomatic reading.
- *syntactically flexible* iff parts of the idiom can undergo some syntactic operation (passivization, ...).

Examples:

- (5) Clyde's government contract payments were bothering me, so I **pulled** some ancient **strings**. (www)
- a. pull \approx use strings \approx connections
 - b. ...so I used some ancient connections.
- (6) Many **strings** have been **pulled** to get John this job.

DFIs in RRCs

As we saw in the introduction, DFIs can be split across a main clause and an RRC (McCawley, 1981; Fabb, 1990; Nunberg et al., 1994):

(7) The **strings** [*RRC* that Chris **pulled**] got Kim the job.

DFIs in discourse

Under certain circumstances, parts of a DFI can be pronominalized:

- (8) Kim's family pulled some strings on her behalf, but **they** weren't enough to get her the job.
(Nunberg et al., 1994, 502)

... or occur in isolation:

- (9) Pat and Chris graduated from law school together with roughly equal records. Pat's uncle is a state senator, and he pulled strings to get Pat a clerkship with a state supreme court justice. Chris, in contrast, didn't have access to any **strings**, and ended up hanging out a shingle. (Wasow et al., 1983, 93)

DFIs in NRCs

If the full DFI is present in the matrix clause, parts of it can occur in an NRC:

- (10) The strings that I pulled for you before,
[*NRC* which I hereby promise I will pull for you again],
will get you the job.
(Arnold & Bargmann, 2016)

If the full DFI is present in an NRC, parts of it can occur in the matrix clause:

- (11) John,
[*NRC* who had hoped that Mary would pull some strings for him],
suddenly realized that she didn't have access to any strings.

Constraints on DFIs in NRCs

But there are other constraints:

- (12) *Those strings,
[NRC which I hereby promise I will pull for you],
will get you the job. (Split)

- (13) *Those strings,
[NRC which I hereby promise will get you the job],
will be pulled by Alex. (Intervention)

- (14) Those strings will be pulled by Alex.

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Orphan approaches

NRCs have often been analyzed as:

- syntactically independent of the matrix clause: problematic, see e.g. Arnold (2004, 2007)
- semantically independent of the matrix clause: problematic, see e.g. Schlenker (2010, 2013) and AnderBois et al. (2015)

Problems for orphan approaches here:

- Licensing of idiom parts in a main clause by a preceding NRC.
- Intervention effects of NRCs with DFIs are unaccountable.

Discourse update

AnderBois et al. (2015); Henderson (2014): Dynamic semantics

- Backgrounded content imposes restrictions on the Context Set and, therefore, is immediately integrated.
- In contrast, at-issue content is *proposed* and, therefore, is not immediately integrated into the Context Set.
- Example (AnderBois et al., 2015, 110):

(15) John^x, who nearly killed a^y woman with his_x car, visited her_y in the hospital.

- a. New proposal: $[p] \wedge p \subseteq p^{cs} \wedge$
- b. Issue: $[x] \wedge x = \mathbf{john} \wedge$
- c. Appositive: $[y] \wedge \mathbf{woman}_{p^{cs}}(y) \wedge \mathbf{nearly-kill}_{p^{cs}}(x, y) \wedge$
- d. Issue: $\mathbf{visit}_p(x, y) \wedge$
- e. Proposal accepted: $[p^{cs}] \wedge p^{cs} = p$

Problem for idioms

The referent of idiomatic *strings* need not be the same:

- (16) John,
[NRC who had hoped that Mary_x would pull [some_y strings] for
him],
suddenly realized that she_x didn't have access to [any_z strings].

Idiom theory

Representational + collocational approach

(Webelhuth et al., to appear; Bargmann & Sailer, 2016):

Decomposable idioms:

- syntactically combine just like free combinations
- require that the semantic representations of the idiom parts co-occur within the semantic representation of the sentence (“collocations”)

(17) spill (the) beans ‘reveal a secret’

Alex *spilled* the *beans*.

$\exists x(x = \iota y : \mathbf{beans-id}(y) \wedge \mathbf{spill-id}(\mathbf{alex}, x))$

a. *spill*: **spill-id**

collocational restriction: **beans-id** occurs in the same semantic representation

b. *beans*: **beans-id**

collocational restriction: **spill-id** occurs in the same semantic representation

Problems for NRCs

An analysis without a theory of discourse updates either predicts (18) to be grammatical or (19) to be ungrammatical.

- (18) *Those strings
[*NRC* which I hereby promise I will pull for you]
will get you the job. (Split)
- (19) Alex pulled the decisive strings,
[*NRC* which I had promised you I would have pulled for you, too].

Intervention effect, (20), would wrongly be considered grammatical:

- (20) *Those strings,
[*NRC* which I hereby promise will get you the job]
will be pulled by Alex. (Intervention)

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Our Approach

- Constraint-based grammar framework:
Head-driven Phrase Structure Grammar (HPSG, Pollard & Sag 1994)
+ Lexical Resource Semantics (LRS, Richter & Sailer 2004)
Here: Leaving out all framework-specific details.
- Syntactically-integrated analysis of NRCs
(e.g. Arnold 2004, 2007; Potts 2005)
- Variant of the semantic representations in AnderBois et al. (2015)
but with explicit update operators in the semantic representations

Update operators

- An expression with illocutionary force contributes appropriate operators for updating the context with the semantics of the expression.
- At-issue content: $\mathcal{AI}(\phi)$
 - ▶ Not immediately integrated into the common ground
 - ▶ Important for discourse continuation
- Backgrounded content: $\mathcal{BG}(\phi)$
 - ▶ Presuppositions, conventional implicatures, ...
 - ▶ Leads to immediate integration into the common ground.
- $\mathcal{BG}(\text{presupposition}) \wedge \mathcal{BG}(\text{apposition}) \wedge \mathcal{AI}(\text{at-issue})$
- Dynamic interpretation (Groenendijk & Stokhof, 1991; AnderBois et al., 2015), but DRT-style representations (Kamp & Reyle, 1993; Kamp et al., 2011) would be equally possible.

Example

Adaptation of an example from (AnderBois et al., 2015, 110)

- (21) John^x,
[who nearly killed a^y woman with his_x car],
visited her_y in the hospital.

$$\begin{aligned} & \mathcal{BG}(\exists x(x = \mathbf{john})) \\ & \wedge \mathcal{BG}(\exists y(y = \mathbf{woman}(y))) \wedge \mathbf{nearly-kill}(x, y) \\ & \wedge \mathcal{AI}(\mathbf{visit}(x, y)) \end{aligned}$$

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Preview

- NRCs: Antecedent must be available in the previous discourse.
- Idioms: Collocational restrictions formulated with respect to update operators.
- Discussion of individual examples

NRCs

- General constraint on NRCs:
The antecedent of an NRC must be available in the discourse.
- Notation: Marking of the antecedent on the relative pronoun

(22) Alex_x, [*NRC*: who_x [S: Kim likes *t_x*]], left.

$$\begin{aligned} & \mathcal{BG}(\exists x(x = \mathbf{alex})) \\ & \wedge \mathcal{BG}(\exists y(y = \mathbf{kim})) \wedge \mathcal{BG}(\mathbf{like}(y, x)) \\ & \wedge \mathcal{AI}(\mathbf{leave}(x)) \end{aligned}$$

Domain of idiom licensing

- Idiom parts require the co-occurrence of particular bits of semantic representation within a particular domain.
- A collocationally restricted element Coll1 is licensed iff it finds its collocator, Coll2, within the scope of the same update operator or within the previous discourse:

(23) a. Same operator:

... *OP*(... Coll1 ... Coll2 ...)

... *OP*(... Coll2 ... Coll1 ...)

b. Previous discourse:

... *OP*(... Coll2 ...) ... *OP*(... Coll1 ...) ...

c. Split:

* ... *OP*(... Coll1 ...) ... *OP*(... Coll2 ...) ...

d. Intervention:

* ... *OP*(... Coll1 ...) ... *OP*(...) ... *OP*(... Coll2 ...) ...

Collocational analysis of DFIs

- *strings*: **strings-id**
is collocationally restricted to **pull-id**.
- *pull*: **pull-id**
is collocationally restricted to **strings-id**

Both collocates in the scope of the same operator:

- (24) Alex **pulled** those **strings** (to get the job).
 $BG(\exists z(z = \mathbf{alex}))$
 $\wedge AI(\exists x(x = \iota y : \mathbf{strings-id}(y)) \wedge \mathbf{pull-id}(z, x))$

Collocator is missing:

- (25) a. *The **strings** were decisive (to get the job).
 $AI(\exists x(x = \iota y : \mathbf{strings-id}(y)) \wedge \mathbf{decisive}(x))$

Interaction with NRCs

Collocate in the previous discourse:

- (26) [The strings_x [*RRC* that Chris pulled]],
[*NRC* which_x Alex didn't pull],
were decisive to get the job.

$$\begin{aligned} & \mathcal{BG}(\exists z(z = \mathbf{chris})) \\ & \wedge \mathcal{BG}(\exists x(x = \iota y(\mathbf{strings-id}(y) \wedge \mathbf{pull-id}(z, y)))) \\ & \wedge \mathcal{BG}(\exists w(w = \mathbf{alex})) \wedge \mathcal{BG}(\neg \mathbf{pull-id}(w, x)) \\ & \wedge \mathcal{AI}(\mathbf{decisive}(x)) \end{aligned}$$

Interaction with NRCs

Split:

(27) *Those_x strings, [_{NRC} which_x Alex pulled], were decisive.

$$\begin{aligned} & \mathcal{BG}(\exists z(z = \mathbf{alex})) \\ & \wedge \mathcal{BG}(\exists x(x = \iota y : \mathbf{strings-id}(y))) \\ & \wedge \mathcal{BG}(\mathbf{pull-id}(z, x)) \\ & \wedge \mathcal{AI}(\mathbf{decisive}(x)) \end{aligned}$$

Intervention:

(28) *Those_x strings, [_{NRC} which_x (I hereby promise) will get you the job], will be pulled by Alex.

$$\begin{aligned} & \mathcal{BG}(\exists z(z = \mathbf{alex})) \\ & \wedge \mathcal{BG}(\exists x(x = \iota y : \mathbf{strings-id}(y))) \\ & \wedge \mathcal{BG}(\mathbf{get-you-job}(x)) \\ & \wedge \mathcal{AI}(\mathbf{pull-id}(z, x)) \end{aligned}$$

Summary of the analysis

- The NRC enforces the discourse update of its antecedent.
- Split and Intervention: The nominal component, *strings*, is not licensed by a collocator.
- In acceptable cases with isolated idiom parts: Both idiom parts have been licensed in the previous discourse.

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Summary

- There is more to idioms and NRCs than suggested in the classical literature (e.g. Vergnaud 1974 and Fabb 1990).
- Here: flexible, decomposable idioms
- NRCs: Require an antecedent that is part of the common ground.
- DFIs:
 - ▶ Collocational relation between idiom parts,
 - ▶ which need to be met within the same update operator or in the preceding context.
- Full HPSG-formalization in progress (Webelhuth et al., to appear; Bargmann & Sailer, 2016; Sailer & Am-David, 2016; Sailer, 2017)

Further applications

- Isolated idiom parts across sentences:

(29) ... and he pulled strings to get Pat a clerkship with a state supreme court justice.

Chris, in contrast, didn't have access to any **strings**, and ended up hanging out a shingle.

... **pull-id**(..., ...) ... **strings-id**(...) ... **strings-id**(...) ...

- Idioms with body parts (“kinograms”, Burger 1976; Sailer 2017) allow for Split:

(30) die Ohren spitzen (lit: ‘prick up one’s ears’) ‘listen carefully’

(31) Alex hat sich die_x **Ohren** untersuchen lassen,
[*NRC* die_x sie früher ja immer gleich **gespitzt** hat, wenn sie ihren Namen gehört hat].

‘Alex had her ears examined, which_x, as you know, used to prick up as soon as she heard her name.’

Open questions

- NRCs:
 - ▶ Exact definitions of the update operators?
 - ▶ Predictions for other constructions (clefts, ...)?
 - ▶ Restrictions on which antecedents are possible from the background?
- Idioms:
 - ▶ Other types of phraseologisms?
 - ▶ Different idioms occurring in the matrix clause and the NRC?

(32) Einzelne Staaten tanzen der EU ganz schön auf der Nase herum, die sie aber offen gesagt immer noch ziemlich hoch trägt.
Literally: Individual states dance on EU's nose, which it is still carrying very high, frankly speaking'
'Some states walk all over EU, who is, however, still quite toffee-nosed.'

Connection to other work in CON2

- Bluemel et al. (2017) compare NRCs to clefts, for which we find the same update structure as assumed here.

(33) Maria hat Hans begrüßt,
[(der ist es,) den sie lange nicht mehr gesehen hat].
'Maria greeted Hans, whom she had not seen in a long time.'
 $\mathcal{BG}(\exists x(x = \mathbf{maria})) \wedge \mathcal{BG}(\exists y(y = \mathbf{hans}))$
 $\wedge \mathcal{AI}(\mathbf{greet}(x, y)) \wedge \mathcal{BG}(\mathbf{not-seen}(x, y))$

- CON-NRR poster: Implicit antecedent for NRCs with symmetric predicates:

(34) Alex_x hat sich mit Chris_y gestritten,
[*NRC* die_{x+y} einander normalerweise gut verstehen].
'Alex quarreled with Chris, who usually get along very well.'

Thank you for your attention!

References I

- AnderBois, Scott, Adrian Brasoveanu & Robert Henderson. 2015. At-issue proposals and appositive impositions in discourse. *Journal of Semantics* 32(1). 93–138. doi:10.1093/jos/fft014.
[+http://dx.doi.org/10.1093/jos/fft014](http://dx.doi.org/10.1093/jos/fft014).
- Arnold, Doug. 2004. Non-restrictive relative clauses in construction based HPSG. In Stefan Müller (ed.), *Proceedings of the 11th international conference on Head-Driven Phrase Structure Grammar, Leuven 2004*, 27–47. Stanford: CSLI Publications.
<http://csli-publications.stanford.edu/HPSG/5/arnold.pdf>.
- Arnold, Doug. 2007. Non-restrictive relative clauses are not orphans. *Journal of Linguistics* 43. 271–309.
- Arnold, Doug & Sascha Bargmann. 2016. Idiom-licensing in non-restrictive relative clauses. Poster presented at the PARSEME meeting, Dubrovnik.

References II

- Bargmann, Sascha & Manfred Sailer. 2016. Syntactic flexibility of non-decomposable idioms. Under review for a volume on *Multiword expressions: Insights from a multi-lingual perspective*.
- Bluemel, Andreas, Christopher Götze & Anke Holler. 2017. Revisiting continuative relative clauses: Towards a unified account. In *Proceedings of SinFonIJA 9, Graz*, .
- Burger, Harald. 1976. Die Achseln zucken — Zur sprachlichen Kodierung nicht-sprachlicher Kommunikation. *Wirkendes Wort* 26. 311–339.
- Fabb, Nigel. 1990. The difference between English restrictive and nonrestrictive relative clauses. *Journal of Linguistics* 26. 57–78.
- Groenendijk, Jeroen & Martin Stokhof. 1991. Dynamic predicate logic. *Linguistics and Philosophy* 14(1). 39–100.
- Henderson, Robert. 2014. The dynamics of nominal apposition. Handout to a talk delivered at Goethe-University, Frankfurt a.M.. January 14, 2014.

References III

- Kamp, Hans, Josef von Genabith & Uwe Reyle. 2011. Discourse representation theory. In Dov Gabbay & Franz Günthner (eds.), *Handbook of philosophical logic*, vol. 15, 125–394. Dordrecht: Reidel 2nd edn.
- Kamp, Hans & Uwe Reyle. 1993. *From discourse to logic*. Dordrecht: Kluwer Academic Publishers.
- McCawley, James D. 1981. The syntax and semantics of English relative clauses. *Lingua* 53. 99–149.
- Nunberg, Geoffrey, Ivan A. Sag & Thomas Wasow. 1994. Idioms. *Language* 70. 491–538.
- Pollard, Carl & Ivan A. Sag. 1994. *Head-driven phrase structure grammar*. Chicago and London: University of Chicago Press.
- Potts, Christopher. 2005. *The logic of conventional implicatures* (Oxford Studies in Theoretical Linguistics). Oxford: Oxford University Press.

References IV

- Richter, Frank & Manfred Sailer. 2004. Basic concepts of lexical resource semantics. In Arne Beckmann & Norbert Preining (eds.), *Esslli 2003 – course material i*, vol. 5 (Collegium Logicum), 87–143. Vienna: Kurt Gödel Society Wien.
- Sailer, Manfred. 2017. The multi-dimensional semantics of kinegrams. Talk at the European Workshop on HPSG, Paris, March 2017.
- Sailer, Manfred & Assif Am-David. 2016. Definite meaning and definite marking. In Doug Arnold, Miriam Butt, Berthold Crysmann, Tracy Holloway King & Stefan Müller (eds.), *Proceedings of the joint 2016 conference on head-driven phrase structure grammar and lexical functional grammar, polish academy of sciences, warsaw, poland*, 641–661. Stanford, CA: CSLI Publications.
<http://csli-publications.stanford.edu/HPSG/2016/headlex2016-sailer-am-david.pdf>.

References V

- Schlenker, Philippe. 2010. Supplements within a unidimensional semantics I: Scope. Paper presented at the *Amsterdam Colloquium 2009*.
<http://ling.auf.net/lingbuzz/002578>.
- Schlenker, Philippe. 2013. Supplements within a unidimensional semantics II: Epistemic status and projection. In Seda Kan, Claire Moore-Cantwell & Robert Staubs (eds.), *Proceedings of the fortieth annual meeting of the north eastern linguistic society*, vol. 2, 167–182. Amherst, MA: Graduate Linguistics Student Association.
- Vergnaud, Jean Roger. 1974. *French relative clauses*: MIT dissertation.
- Wasow, Thomas, Ivan A. Sag & Geoffrey Nunberg. 1983. Idioms: An interim report. In S. Hattori & K. Inoue (eds.), *Proceedings of the xiiiith international congress of linguistics*, 102–115.
- Webelhuth, Gert, Sascha Bargmann & Christopher Götze. to appear. Idioms as evidence for the proper analysis of relative clauses. In Manfred Krifka, Rainer Ludwig & Mathias Schenner (eds.), *Reconstruction effects in relative clauses*, Berlin: Akademie Verlag.