

Only reconstruction and backwards association*

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Abstract

Büring and Hartmann (2001) provide evidence that when the German exclusive particle *nur* linearly precedes a sentence-initial fronted DP that reconstructs, it cannot reconstruct along with the DP. They conclude with Jacobs (1983) that *nur* is always a propositional operator on the clausal spine. However, Smeets and Wagner (2018) show that *nur* can take reconstructed scope after all, and defend an analysis where *nur*+DP may be parsed together as a single quantifier. Yet, a comparison with English reveals that *only* cannot reconstruct, bearing out the pattern that Büring and Hartmann (2001) had suggested for German. We propose a new analysis that can account for both languages. We argue for our analysis based on a correlation between the apparent reconstruction of the exclusive with the DP and backwards association possibilities.

1 Introduction

As defined in (1), *only* composes with a proposition (‘prejacent’). Our aim is to assess whether *only* can also compose with a quantificational DP. Rooth (1985) and Wagner (2006) in different ways associate *only* with a meaning by which it can compose with a quantifier to output a new quantifier. In Rooth’s 1985 perspective, *only* is systematically ambiguous between (1) and further meanings of other semantic types. One is (2), taking a quantificational input.

- (1) $[[\text{only}_{st}]]^{ALT} = \lambda p_{st} . \lambda w : p(w) . \forall p' \in ALT [p'(w) \rightarrow p \subseteq p']$
(2) $[[\text{only}_Q]]^{ALT} = \lambda Q_{est,st} . \lambda f_{est} . [[\text{only}_{st}]]^{ALT}(Q(f))$

Our investigation will home in on one test environment: data where *only* is sentence-initial, and precedes a DP which has achieved its surface position by moving from a site lower in the clause, and can reconstruct to the low position. If *only* can compose with the DP, it should be able to reconstruct along with the DP to take low scope. We will insert an operator with respect to which *only* is scopally non-commutative into the structure between the landing site of movement and the origin, and test whether *only* can scope below the operator. Our primary test operator will be the adverbial *again*.

Testing for reconstructed scope in both German and English will yield conflicting results. In German, it appears that *nur* (‘only’) is able to scope below the additional operator, while in English, *only* will fixedly take wide scope over the operator. We will be concerned with reconciling the differential scope behavior in the two languages.

We will take the English data seriously as demonstrating that (2) is not an available meaning in any language, and propose an analysis for how *nur* takes low scope in German that does not rely on (2). When *nur* appears to reconstruct with a DP, the interpreted operator is a covert instance of (1), which attaches on the clausal spine under *again* and “backwards associates” with the fronted DP. Backwards association is independently blocked in English.

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2 Nur can take low scope in German

In (3), *nur* appears at the left edge of the sentence, preceding an object DP which has fronted to satisfy V2 requirements. The lower subject is a universal quantifier. [Büring and Hartmann \(2001, 260\)](#) report that *nur* is limited to take wide scope over the subject.

- (3) Nur das *Abstract* hat jeder gelesen.
 only the abstract has everyone read
 ‘Only the abstract is such that everyone has read it.’ (B&H: *only* > \forall ; \forall > *only*)

The fronted DP itself, by contrast, can reconstruct, as shown in (4), where the DP is existential. As a result, Büring & Hartmann conclude that (3) must involve a verb-third structure, with *nur* adjoined to the CP, interpreted as (1). More generally, this analysis, following [Jacobs \(1983\)](#), is based on the idea that *only* can never form a constituent with an (argument) DP.

- (4) Ein Abstract hat jeder gelesen.
 an abstract has everyone read
 ‘Everyone has read an abstract.’ (\exists > \forall ; \forall > \exists)

[Smeets and Wagner \(2018\)](#), however, find that inverse scope in (3) is detectable when the fronted DP is accented, and the remainder of the sentence deaccented. Moreover, they note that *nur* readily takes scope below *wieder* (‘again’) in (6). With low scope for *nur*, the preajacent of *wieder* conveys that Jan and no one else has failed in the present instance. Accordingly, the presupposition that *wieder* introduces is that there is a prior instance where Jan and no one else failed. The brief discourse in (5) offers a set up supporting the presupposition.

- (5) A: Last time, Jan failed the quiz, and everyone else passed.
 B: And this time?
- (6) Nur *Jan* ist wieder durchgefallen.
 only Jan is again flunked
 ‘Only Jan has flunked again.’ (*only* > *again*; *again* > *only*)

In response, [Smeets and Wagner \(2018\)](#) claim that *nur* can compose with a quantifier, after all. As in (7), *Jan* Montague lifts to quantifier type to furnish a licit argument for *nur* with the meaning in (2). In turn, V2 can reconstruct, as in (8), to assign *nur*+DP low scope.

- (7) $[[\text{Jan}^\uparrow]] = \lambda f_{est} . \lambda w . f(\text{Jan})(w)$
- (8) $[_{CP} \text{ist}_2 [_{TP} [\text{wieder} [_{vP} [\text{nur} [_{DP} \text{Jan}]]] \text{durchgefallen}]] t_2]]$

Importantly, note that narrow scope for *nur* is distinguishable from an alternative wide scope reading. If *nur* scoped over *wieder*, as in (9), a presupposition would be triggered that Jan has failed before. Moreover, each alternative would contain *wieder*, and thus carry a presupposition that *x had failed before*, for the given individual *x*. Assuming these presuppositions project, the global presupposition would require *people other than Jan* to have failed, as well (see [McKillen, 2016](#)). Surface scope is, of course, available, but crucially, inverse scope is, too.

- (9) $[_{CP} [\text{nur} [_{DP} \text{Jan}]] \lambda 1 \text{ist}_2 [_{TP} t_1 [\text{wieder} [_{vP} t_1 \text{durchgefallen}]] t_2]]$

[Smeets and Wagner \(2018\)](#)’s analysis makes a prediction: that the scope of *nur* should correlate with the reconstruction possibilities of fronted quantifiers. The possibility of narrow scope of *nur* under *wieder* does parallel (10), where a fronted existential can scope beneath *wieder* in

kind. On the reconstructed reading, (10) presupposes not that there is someone who has failed this time who also failed before, but rather just that someone or other failed before.

- (10) Jemand ist wieder durchgefallen.
 someone is again flunked
 ‘Someone flunked again.’ ($\exists > \textit{again}$; $\textit{again} > \exists$)

Moreover, there are cases where quantifier reconstruction is blocked, and low scope for *nur* is unattested, too. For one, if we replace *wieder* with *zum zweiten Mal* (‘for the second time’), as in (11), then the quantifier obligatorily scopes wide. The fact with *nur* in (12) correlates: (12) seems infelicitous in the context in (5), indicating that *nur* cannot take narrow scope.

- (11) Jemand ist zum zweiten Mal durchgefallen.
 someone is for the second time flunked
 ‘Someone flunked for the second time.’ ($\exists > \textit{second time}$; $*\textit{second time} > \exists$)
- (12) Nur Jan ist zum zweiten Mal durchgefallen.
 only Jan is for the second time flunked
 ‘Only Jan has again flunked.’ ($\textit{only} > \textit{second time}$; $*\textit{second time} > \textit{only}$)

While quantifiers often can reconstruct from first position in a V2 sentence, reconstruction is blocked, including with *wieder*, when the quantifier remains in the ‘middle field’, as in (13). As observed in Smeets and Wagner (2018), low scope of *nur* is likewise impossible in (14). (See Frey (1993); Lechner (1998); Sternefeld (2001); Lechner (2018) for thorough discussions of reconstruction in the German middle field.)

- (13) Gestern ist jemand wieder durchgefallen.
 gestern is someone again flunked
 ‘Yesterday, someone flunked again.’ ($\exists > \textit{again}$; $*\textit{again} > \exists$)
- (14) Gestern ist nur Jan wieder durchgefallen.
 gestern is only Jan again flunked
 ‘Yesterday, only Jan flunked again.’ ($\textit{only} > \textit{again}$; $*\textit{again} > \textit{only}$)

Overall, an analysis of *nur* with (2) as an available meaning seems natural within German. That way, *nur* can compose with a following DP to form a quantifier and reconstruct to take narrow scope, except where reconstruction is independently blocked. In so far as logical vocabulary is universal, if (2) is attested in German, (2) should be available across languages. In this respect, a complication does, however, arise with English *only*.

3 English *only* cannot take low scope

McKillen (2016, 118) observed that when *only* is initial and *again* attaches at the *vP*, *only* takes fixed wide scope over *again*. We illustrate with (15). As noted by Smeets and Wagner (2018), this linear position of *again* is somewhat marked. Still, most speakers who accept the word order report a contrast between the two scope readings.

- (15) Only Sue has again failed. ($\textit{only} > \textit{again}$, $*\textit{again} > \textit{only}$)

The context in (16) supports low scope for *only* and, as shown in (17-a), (15) seems infelicitous.

(17-b), where *only* takes transparent low scope, offers a point of comparison.¹

(16) A: Last time, Sue failed the quiz, and everyone else passed. B: And this time?

(17) a. #Only Sue has again failed (the quiz). The others passed, like last week.²
b. Again, only Sue has failed.

In (18), a baseline context is provided supporting surface scope, and (15) improves. The residual ‘?’ in (19) reflects some speakers’ general hesitance about the word order.

(18) A: Last time, Mary, John, and Sue failed the quiz. B: And this time?

(19) ?Only Sue has again failed (the quiz). The others passed this time.

While English does not exhibit V2, the initial DP is still in a derived position, as the subject A-moves from its thematic merger site in spec-*v*P to spec-TP, over adverbs such as *again*. In general, a quantifier undergoing such movement can reconstruct:

(20) Sue failed last week’s quiz. This week, someone has again failed (the quiz).

Like German (10), the second sentence in (20) does not necessarily presuppose that the person who failed this time has failed before, but rather just that someone or other failed before. This is clear, since the overall sequence in (20) need not convey that Sue failed twice. Hence, *someone* must be able to reconstruct under *again*. But then, if *only*+DP could be parsed as quantifier in (15), that should be able to reconstruct, too, to assign *only* low scope.

The correlation between quantifier reconstruction and the scope of the exclusive which seemed to hold *within* German breaks down *across* languages. English and German are alike in that a sentence-initial DP can reconstruct beneath *again*. But, the two languages come apart in the patterning of the exclusive: *nur* can take low scope; *only* cannot.

3.1 The paradox

To avoid over-generating unattested low scope in English, a parse where *only* reconstructs with the DP must be ruled out. This is directly predicted if (2) is simply not an available meaning, so that *only* cannot compose with a DP. Yet, how can German *nur* then take narrow scope? If *nur/only* directly encode (1), (6) and (15) must both be parsed with *nur/only* adjoined at the edge of the matrix clause, where they should take widest scope, as in Buring & Hartmann’s proposal. One possibility is that languages make use of different logical vocabulary, and that (2) is available in German, but not in English. We show, however, that the data receive a principled reconciliation in a system where just (1) is available in both languages.

4 Re-analyzing *only* and scope

Quek and Hirsch (2017) and Hirsch (2017) (hence QH) propose that the interpreted operator is always (1), but deny that overt forms like *nur* and *only* directly encode that operator. By

¹As observed in McKillen (2016), the pattern of English *again* is unexpected in the account of ‘weakened projection’ in Sauerland (2013), where certain presupposition can be ignored in focus alternatives sets and therefore fail to project. This account could have offered an alternative interpretation of the German facts.

²A reviewer reports a conflicting judgment, and accepts (17-a), but notes adding a direct object might matter. McKillen’s example involved an object, maybe sharpening the contrast: *Only John has again forgotten his homework*. We have to leave this for future study. Note (6) allows inverse scope with or without an object.

5.1 Fixed scope in English

We first consider English (26), repeated from Section 3, where *only* takes obligatory wide scope over *only*. The structure in (27) straightforwardly derives the attested reading. The subject DP is focused, and F attaches local to the DP. The interpreted ONLY head attaches on the clausal spine, above the FP in spec-TP. Overt *only* can realize either ONLY or F and, one way or the other, the string in (26) results. Because ONLY is attached at the edge of the clause, it takes widest scope, above *again*.

(26) Only Sue has again failed (the quiz). (*only* > *again*; **again* > *only*)

(27) [ONLY [_{TP} [_{FP} F [_{DP} Sue]_{Foc}] λ1 has [again [_{vP} t₁ failed]]]]

Indeed, from the surface syntax in (27), there is no path to narrow scope for ONLY. The FP has undergone A-raising from spec-*vP* to spec-TP, and that movement could reconstruct to assign the FP narrow scope, as in (28). However, because F is semantically inert, reconstruction in (28) only diminishes the scope of the DP, as we noted was possible in Section 3. Being outside the raised constituent, the scope of the interpreted ONLY remains wide.

(28) [ONLY [_{TP} has [again [_{vP} [_{FP} F [_{DP} Sue]_{Foc}] failed]]]]

To derive the unattested scope order, a different surface syntax would be required, one which merges ONLY lower, as in (29). As before, the FP raises from spec-*vP* to spec-TP, but now ONLY is beneath the landing site of movement, under *again*. Since initial *only* could be DP-level and realize F, the structure in (28) is compatible with the surface string.

(29) * [_{TP} [_{FP} F [_{DP} Sue]_{Foc}] λ1 has [again [ONLY [_{vP} t₁ failed]]]]

However, (29) runs afoul of a well-known constraint in English: *only* cannot associate with a focus outside its scope in the surface syntax. In other words, the propositional operator cannot “backwards associate” with a focus to its left. Jackendoff (1972) first observed the prohibition on backwards association. For the case at hand, the baseline is (30), where *only* is overtly realized at the putative position of ONLY in (29). Crucially, (30) is impossible on a reading where *Sue* is the associate of *only*.

(30) *Sue_{Foc} has again only failed.

From QH’s perspective, (30) is just another way of realizing the structure in (29). Whereas the string in (26) results if F is overt, the string in (30) results if ONLY is overt. What we learn from (30), then, is that the structure in (29) is ill-formed and, accordingly, it would also be ruled out as a possible parse of (26) as well. Just as overt ONLY cannot associate with a focus to its left in (30), covert ONLY could not associate with a focus to its left in (26).

It merits comment that the string in (30) is ungrammatical, while the string in (26) is grammatical, but lacks a narrow scope reading for *only*. Because *Sue* is focused, F must attach local to it and, in turn, overt *only* in (30) must be parsed as a realization of ONLY, as it is remote from *Sue*. The illicit structure in (29) is, therefore, the only parse compatible with the string in (30). On the other hand, as noted, the string in (26) is also compatible with high attachment of ONLY in (27), which does not involve backwards association.

In sum, there is no licit path to inverse scope in (26). The FP surfaces in spec-TP. Given that backwards association is prohibited, ONLY, whether overt or covert, must attach higher, and accordingly, ONLY fixedly takes widest scope.

5.2 Ambiguous scope in German

German differs from English in permitting backwards association. Consider again the example in (31), repeated from (6), where *nur* can take scope below, as well as above, *wieder*.

- (31) Nur *Jan* ist wieder durchgefallen.
 only Jan is again flunked
 ‘Only Jan has flunked again.’ (*only* > *again*; *again* > *only*)

Narrow scope for *nur* derives as in (32). The FP has undergone fronting to spec-CP for V2, and ONLY attaches at a position within the middle field below *wieder*, and backwards associates with the fronted DP to its left. The structure is analogous to (28) above, and compatible with the string in (31), if F is overtly realized, and ONLY covert.

- (32) $[_{CP} [_{FP} F [_{DP} Jan]_{Foc}] \lambda 1 \text{ ist}_2 [_{TP} t_1 [\text{wieder } [_{\text{ONLY}} [_{vP} t_1 \text{ durchgefallen}]]] t_2]]$

The crucial difference from English emerges in the baseline in (30), where *nur* is pronounced at the site of ONLY. Unlike its English analog in (30), (33) is acceptable if *nur* associates with *Jan*, indicating that backwards association to a constituent in first position of a V2-clause is possible in German (cf. Jacobs, 1983).

- (33) *Jan*_{Foc} ist wieder nur durchgefallen.
 Jan is again only failed
 ‘Only Jan has failed again.’

In QH’s system, (33) shows that (32) is licit, and (32) should thus be an available parse for (31) too, leading to a low scope reading for *nur*.

Wide scope for *nur* could derive as in (34), where ONLY attaches to the matrix CP, above the fronted FP, similar to English (27). However, (34) shares with Buring & Hartmann’s analysis that the derivation is verb-third, which would be exceptional for German.

- (34) $[_{\text{ONLY}} [_{CP} [_{FP} F [_{DP} Jan]_{Foc}] \lambda 1 \text{ ist}_2 [_{TP} t_1 [\text{wieder } [_{vP} t_1 \text{ durchgefallen}]] t_2]]]$

Given that backwards association is licit, wide scope for *nur* can, in fact, derive without V3. The parse is (35). As in (32), ONLY attaches in the middle field and backwards associates with the FP, but now ONLY is at a site above *wieder*. Wide scope for ONLY results, and the correct surface string is again output if *nur* realizes F.

- (35) $[_{CP} [_{FP} F [_{DP} Jan]_{Foc}] \lambda 1 \text{ ist}_2 [_{TP} t_1 [_{\text{ONLY}} [\text{wieder } [_{vP} t_1 \text{ durchgefallen}]]] t_2]]]$

Hence, with *nur* realizing F, scope ambiguity results from different options as to where covert ONLY is placed in the middle field, which are available because German, unlike English, allows for backwards association. ONLY can be placed at a site below, as well as above, *wieder*.

Of course, the question remains as to *why* English and German differ with respect to backwards association (see Erlewine 2014 for a proposal). Yet, what’s crucial for our purpose is that the baseline examples in (30) and (33) show that there is such a difference. Given the difference—regardless of its explanation—observed scope freezing in English and freedom in German “follows for free” from QH’s analysis, generalized to both languages.

5.3 Fixed scope in German

We noted in Section 2 that Smeets & Wagner predicted scope restrictions on exclusive operators should correlate with restrictions on quantifier reconstruction. Our approach makes a different prediction: that scope restrictions with exclusive operators should correlate with restrictions on backwards association. We've seen that differences *between* English and German follow from that prediction. Scope restrictions *within* German do, as well. In Section 2, we identified environments where *nur* cannot take low scope. In addition to quantifier reconstruction being blocked in those cases, backwards association is, too.³

First, we observed in (12) that *nur* takes obligatory wide scope over *zum zweiten Mal* ('for the second time'), unlike *wieder*. To derive narrow scope, we would require ONLY to attach low and backwards association with *Jan* across the adverbial. (36) shows that backwards association with the DP in first position is independently impossible across *zum zweiten Mal*.

- (36) **Jan_{Foc}* ist zum zweiten Mal nur durchgefallen.
 Jan is for second time only flunked
 'For the second time only Jan flunked.'

Likewise, we observed in (14) that *nur* cannot scope beneath *wieder* when it precedes a DP that is in the middle field. While backwards association across *wieder* to a DP in first position in V2 is possible, backwards association to a DP in the middle field is not. (37) is unacceptable if *nur* associated with *Jan*.

- (37) **Gestern* ist *Jan_{Foc}* wieder nur durchgefallen.
 gestern is Jan again only flunked
 'Yesterday, only Jan again flunked.'

In addition to having the new empirical benefit of accounting for differences in scope of the exclusive relative to *wieder/again* between languages, our system thus maintains an account of scope freedom and fixing within German. Based on (36) and (37), we predict the impossibility of low scope for *nur* in (12) and (14) from Section 2.

6 A further prediction

In discussing English, we have focused entirely on data with *again*. Before concluding, we want to flag one additional correct prediction of our account for English. The prediction involves the perceived scope of sentence-initial *only* in subject raising configurations. The expectation is that *only* should take obligatory wide scope over the raising predicate:

- (38) Only Sue is certain to get an A. (*only* > *certain*; **certain* > *only*)

This is supported in (38). The sentence naturally allows a reading where *only* scopes over *certain*, as paraphrased in (39-a). If *only* took narrow scope, the reading in (39-b) would result instead. The former, but not the latter, leaves open the possibility that students other than Sue might get an A, as well. The data in (40) demonstrate that *only* cannot take narrow scope: if we already know the outcome for every student, we cannot use (38) to convey what we are certain about. This stands in contrast to a baseline where *only* takes transparent low scope under *certain*, which is licit in the same context.

³This correlation might suggest that the analysis of backwards association depends on reconstruction of the associate into the scope of ONLY. We leave further consideration to a future occasion.

- (39) a. It's certain Sue will get an A, and not certain anyone else will. (*only* > *certain*)
 b. It's certain Sue and no one else will get an A. (*certain* > *only*)
- (40) We already know exactly what will happen.
 a. #Only Sue is certain to get an A.
 b. It's certain that only Sue will get an A.

Convergent with conclusions from the *again* data in Section 3, scope freezing in (38) would be surprising if (2) were an available meaning for *only*. In general, A-raising can reconstruct (see e.g. Barss 1986, Romero 1998, Fox 1999, Sportiche 2006, among other works). For example, the following example shows a scope ambiguity, and there is a reading where no particular student is certain to get an A:

- (41) Some student or other is certain to get an A. (\exists > *certain*; *certain* > \exists)

If *only* could compose with the DP in (38), it should be able to reconstruct with the DP and take narrow scope in kind. On the other hand, our proposal predicts the pattern. Just the propositional operator is available, encoded in ONLY, and ONLY must take wide scope, as in (42), not narrow scope, as in (43), since backwards association is disallowed in English.

- (42) [ONLY [_{TP} [_{FP} F [_{DP} Sue]_{Foc}] λ 1 [_{vP} is certain [_{TP} t₁ to [_{vP} t₁ get an A]]]]]]

- (43) [_{TP} [_{FP} F [_{DP} Sue]_{Foc}] λ 1 [_{vP} is certain [_{TP} t₁ to [ONLY [_{vP} t₁ get an A]]]]]]

A broader range of quantifiers and operators should be looked at to see how general the pattern for *only* is. For example, our proposal is similar to an account for related missing reconstruction effects with negative quantifiers. Iatridou and Sichel (2011) noted that negation with a raised NegDP must scope over *certain* (*No one is certain to get an A* \neq *It's certain that no one will get an A*) (building on Lasnik 1999). To preclude negation reconstructing low, they took semantic negation to be separate from the DP, in a head on the clausal spine, above the subject (e.g. Penka, 2001; Zeijlstra, 2007; Penka, 2011). We extend this treatment to *only*.

7 Conclusion

We have presented evidence that exclusive operators are necessarily propositional operators. *Nur* and *only* can attach directly to a DP, but they then realize not the exclusive operator itself, but an inert focus head. The analysis avoids over-generation problems which would arise if English *only* could compose with a quantifier, and predicts a new correlation between backwards association and low scope for the exclusive within and across languages.

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