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Chapter 1

An extraction restriction with complement-less prepositions in British English but not dialectal German

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This paper explores a potential parallel between two Germanic dialects regarding complement-less prepositions. British English permits "Prepositional Object Gaps", e.g. *This box has papers in **(it)***; while Northern German permits "*da*-drop", e.g. *Heute habe ich die Zeit nicht **(da)**zu gehabt*, 'Today I have not had the time for (it)'. Novel experiments show that the sentence object (viz. *papers*) cannot be A-bar extracted in British English, whereas there is no such restriction in Northern German. We suggest that the British English restriction follows from ungrammatical crossing A-bar dependencies, which do not arise in German due to A-scrambling. This syntactic analysis forms part of a wider comparison of the two constructions from semantic, typological and diachronic perspectives.

1 Introduction

This paper explores a potential parallel between two Germanic dialects regarding complement-less prepositions. For our purposes, "complement-less prepositions" refers to two very specific constructions: British English "Prepositional Object Gaps" and Northern German "*da*-drop".

In many varieties of British English (BrEng), inanimate pronominal complements of certain locative prepositions can be omitted under certain circumstances, as illustrated in (1):

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(1) a. The box has papers in **(it)**. BrEng
b. Your tie has a stain on **(it)**.

In other varieties, e.g. North American English (NAmEng), the pronoun is obligatory, as indicated in (2):

(2) a. The box has papers in *(it). NAmEng
b. Your tie has a stain on *(it).

We will see that BrEng has not simply reassigned *in* and *on* to the class of optionally transitive prepositions. With prepositions of that class, such as *inside* (3), pronoun omission is possible for all speakers of English (AllEng):

(3) The box has papers inside (it). AllEng

Rather, the omission of the pronouns in (1) is restricted in ways that the omission in (3) is not. Prepositional Object Gaps thus cannot simply be a case of optional phonological omission.

Similarly, in Low- and Middle-German Dialects (for simplicity, Northern German, NGer), inanimate pronominal complements of certain prepositions can sometimes be omitted; namely the *da(r)-* proclitic of "Pronominaladverbien", as in (4):

(4) a. Heute habe ich die Zeit nicht **(da)**zu gehabt.
today have I the time not (DA).for had
'Today I have not had the time for it.'
b. Im Sommer sollte man auch gelegentlich einen Wassernapf
in summer should one also occasionally a water.bowl
(**da**)neben stellen.
(DA).next.to put
'In summer, one should occasionally put a bowl of water next to it.'

As discussed further in section 3, *da* is homophonous with the locative 'there', but in this context means 'it'. We will pursue an analysis under which, as with Prepositional Object Gaps, *da*-drop is not simply a case of phonologically dropping *da*, but is syntactically controlled.

In outline, the next two sections review the basic patterning of Prepositional Object Gaps and *da*-drop, before section 4 draws a direct comparison. Sections 5 and 6 present novel experimental evidence designed to further explore their syntactic structures, particularly with respect to A-bar movement. Section 7 then discusses the implications of our results for the question of whether these two complement-less P phenomena call for similar syntactic analyses. Section 8 concludes with some directions for further study.

2 Background on British English Prepositional Object Gaps

The British English (BrEng) complement-less locative prepositions we are concerned with were first analyzed[1] by Griffiths & Sailor (G&S) (Griffiths & Sailor 2015a,b, 2017; Sailor & Griffiths 2017) under the moniker Prepositional Object Gaps (POGs). As indicated in (5), the pronoun (a) or gap (b) obligatorily corefers with an overt DP. Only in BrEng is (b) acceptable, where it is synonymous with (a):

(5) a. This film$_i$ has monsters in it$_{i/*j}$. AllEng
b. This film$_i$ has monsters in __$_{i/*j}$. BrEng

This section introduces four essential features of POGs: (i) POGs generally require locative *have* or *with*; (ii) the most broadly accepted prepositions are *in* and *on*; (iii) the "missing" pronoun must be inanimate; and (iv) POGs are importantly different from other constructions involving complement-less prepositions.

First, POGs are best licensed in the context of locative *have*, as in (5) above, or *with*, as in (6) (Swan 1995: 433):

(6) the film$_i$ with monsters in (it$_i$)

Beyond these particular predicates, POGs are degraded. In (7), for example, the existential (a) is bad, despite the apparent synonymy of (b) and (c) (G&S):[2]

[1] This phenomenon has been observed in the descriptive literature (Swan 1995, Algeo 2006:197) and (foot)noticed by syntacticians (Belvin & den Dikken 1997:168, fn. 17, McIntyre 2005:5).

[2] Although the judgement on sentences like (7a) has been uncontroversial among BrEng linguists, including the first author, the naïve BrEng participants in the experiment discussed in section 5 did not uniformly share it. For the sentence in (i), their ratings ranged from the lowest of 1 to the highest of 7 with a mean of 5.2 and a median of 5, and were unimodally distributed:

(i) [TV shows]$_i$ are more exciting when there are monsters in __$_i$.

The item in (i) differs from (7a) in potentially relevant ways. For one, the antecedent for the gap is in the same sentence. Moreover, like in all of the preceding examples, the antecedent c-commands the gap. To assess the importance of c-command we tested (ii), where the antecedent does not c-command the gap. The ratings for (ii) were not much lower than for (i): the mean was 4.9, the median 5. Thus, having the antecedent in the same sentence may be more important:

(ii) I agree with you about [that film]$_i$, even though there are superheroes in __$_i$.

(7) a. Don't watch that film$_i$ – there's a monster in *(it$_i$)!
b. There's a monster in that film.
c. That film$_i$ has a monster in (it$_i$).

Even verbs that can be roughly synonymous with *have* do not license POGs, as shown in (8) (Stockwell & Schütze 2019). Neither do non-locative uses of *have* (Ritter & Rosen 1997, Harley 1998, Myler 2016), as shown in (9):[3]

(8) a. This lift$_i$ can **have** up to 14 people in (it$_i$).
b. This lift$_i$ can **hold/accommodate** up to 14 people in *(it$_i$).

(9) a. For a film$_i$ to be successful, monsters have (got) to be in *(it$_i$)! [modal *have (got) to*]
b. The boiler$_i$ had its$_i$ tank collecting water in *(it$_i$). [experiencer *have*]
c. The film$_i$'s director had there be lots of monsters in *(it$_i$). [causative *have*]

Second, regarding prepositions, POGs are possible with *in*, as above, and *on*, as in (10), throughout BrEng:

(10) a. This box$_i$ has spots on (it$_i$).
b. a utility bill$_i$ with your address on (it$_i$)

[3]Additional licensing verbs are plausibly built from *have* (cf. Sailor & Griffiths 2017:10): (i) illustrates for *need*, which has been argued to contain possessive *have* (Harves & Kayne 2012); and (ii) for *get*, which has been claimed to be the inchoative of *have* (Kimball 1973, Emonds 1994:164, i.a.). We note that, as in (8b), roughly synonymous verbs fail to license POGs:

(i) This film$_i$ {**needs**/??**requires**/??**demands**} more monsters in __$_i$.
(ii) The guestbook$_i$ {**got**/***received**/***acquired**} so many rude entries in __$_i$ last year that it had to be thrown away.

At a greater stretch from *have*, we find that the same is true for *put* (iii) (and lack of c-command does not seem to matter; cf. note 2):

(iii) a. (At Wimbledon:) If the court$_i$ starts getting too hard, we'll {**put**/??**sprinkle**/??**spray**/?***hose**} more water on __$_i$.
b. If the box$_i$ weighs more than 50lbs, you've {**put**/??**placed**/??**loaded**} too many papers in __$_i$.

The availability of POGs with other locative prepositions is subject to inter-speaker variation (G&S).[4] With a view to encompassing the broadest range of BrEng speakers in the experiment in section 5, we limit ourselves to *in* and *on* here.

Third, the corresponding "missing" pronoun must be inanimate (11). Accordingly, POGs are possible with *it* counterparts, as above, and with inanimate *them*, as in (a). POGs are impossible, however, with first and second person pronouns, as in (b), and third person animate pronouns, as in (c) (G&S):

(11) a. These boxes$_i$ have papers in (them$_i$).
b. I/You have {poison/radioactive chemicals} in *(me/you).
c. That guy$_i$ looks like he has ten pints of beer in *(him$_i$).

Finally, POGs differ from other constructions involving complement-less prepositions. There are environments beyond just *have*/*with*-frames where complement-less prepositions are possible in all Englishes. Three distinct instances of prepositions with no overt complement are surveyed in (12) – "projective" prepositions (a) (Svenonius 2010), directional particles (b), and predicates of wearing (c):

(12) a. There was a box on the table. Inside ((of) it) was fine Swiss chocolate.
b. They fell in (the hole).
c. John had a hat on. [N.B. ≠ John$_i$ had a hat on him$_i$ – i.e. John had a hat on his person, e.g. in his pocket]

The next section turns to complement-less prepositions in another Germanic dialect – Northern German.

3 Background on Northern German *da*-drop

3.1 Pronominaladverbien

In German, the weak neuter pronoun *es* ('it') cannot normally be the complement of most prepositions.[5] As alternatives, all prepositions allow a neuter demonstrative like *das/dieses* ('this') or *jenes* ('that'), and approximately 20 prepositions allow an "R-pronoun" *da(r)* 'it', which procliticizes to the preposition. These combinations of the R-pronoun with various prepositions are called "Pronominaladverbien" (pronominal adverbs) (van Riemsdijk 1978, Gallmann 1997, Haider 2010,

[4] G&S (2017) assert that POGs are also licensed – with inter-speaker variation – by *behind, inside, below, above, beyond, around, through, across, along, over, under, past, between, up* and *down*.

[5] There are only a few prepositions that can combine with *es*, for example *ohne* ('without') – at least in the majority of dialects that lack the form *darohne*.

Koopman 2010, Abels 2012, Noonan 2017, i.a.). This phenomenon is illustrated in (13), where (b) could be used to convey the same message as (a):

(13) a. Fritz hat gestern an sein Auto gedacht.
F has yesterday about his car thought
'Fritz thought about his car yesterday.'

b. Fritz hat gestern {daran /*an es} gedacht.
F has yesterday DA.about about it thought
'Fritz thought about it yesterday.'

Beyond neuter singular, (14) shows that with third person singular masculine (a,b), feminine, and plural (c,d) complements to P the pronominal adverb alternates with the canonical order of preposition–pronoun if the referent is inanimate. The pronominal adverb is excluded if the referent is human (e,f) (Müller 2000, 2002):[6,7]

(14) a. Maria musste noch oft an ihren Lieblingsrock denken.
M had.to still often about her favorite.skirt think
'Maria still had to often think about her favorite skirt.'

b. Maria musste noch oft {daran /an ihn} denken.
M had.to still often DA.about about it(MASC) think
'Maria still had to often think about it.'

c. Maria musste noch oft an ihre Lieblingspuppen denken.
M had.to still often about her favorite.dolls think
'Maria still had to often think about her favorite dolls.'

d. Maria musste noch oft {daran /an sie} denken.
M had.to still often DA.about about them think
'Maria still had to often think about them.'

e. Maria musste noch oft an ihre Lieblingsschwester denken.
M had.to still often about her favorite.sister think
'Maria still had to often think about her favorite sister.'

[6]When pronominal adverbs are used as in (13) and (14) with the *da* portion representing a personal pronoun they are always stressed on the second syllable. The same orthographic form can also be pronounced with stress on *da*, which is then interpreted as a demonstrative pronoun.

[7]For most speakers, *da(r)-* is degraded with nonhuman animate antecedents; though see Thun (1985).

f. Maria musste noch oft {an sie /*daran} denken.
M had.to still often about her DA.about think
'Maria still had to often think about her.'

Note that *da* cannot occur in an out-of-the-blue context. Rather, *da* takes the discourse topic as its antecedent, which often occurs in a previous sentence.

While the pronominal adverb construction is available in all German dialects, it has two interesting properties in NGer, where the *da(r)* portion can be displaced leftwards or, similar to BrEng POGs, dropped.

3.2 *Da*-fronting

The R-pronoun *da(r)* can optionally be displaced leftward from the preposition in NGer, a construction we refer to as "*da*-fronting" (cf. "Spaltungskonstruktion" 'split construction' in Fleischer 2002; see also Müller 2000).[8] In this construction, *da(r)* frequently appears sentence-initially, as in (15), but it can also show up in the middle field, as in (16):

(15) a. Colloquial Northern German
Da kommen sie viel billiger **bei** weg.
DA come.3PL they much cheaper by away
'They come away from it much cheaper.'

b. North Saxon (Lindow et al. 1998:274)
(Dar) kaamt se veel billiger **bi** weg.
DA come.3PL they much cheaper by away
'They come away from it much cheaper.'

[8] *Da*-fronting is proscribed in standard German: "Heute gilt die Trennung der Pronominaladverbien nicht als hochsprachlich; sie ist umgangssprachlich, besonders norddeutsch:… *Da kann ich nichts für.* Hochsprachlich: *Dafür kann ich nichts.*" (Berger et al. 1972: 532) ['Today the separation of the pronominal adverbs is not considered high-level language; it is colloquial, especially northern German: DA *can I nothing for.* High-level: DA.*for can I nothing* ('It's not my fault.')']. "Ein weiterer Fehler, wieder vor allem in der gesprochenen Sprache, ist die Aufsplitterung des Pronominaladverbs" (Götze & Hess-Lüttich 2002: 301) ['Another mistake, again especially in the spoken language, is the splitting of the pronominal adverb'].

(16) a. Colloquial Northern German
Sie kommen **da** viel billiger **bei** weg.
they come.3PL DA much cheaper by away
'They come away from it much cheaper.'

b. East Pomeranian (Stübs 1938: 140)
Se sünd **doa** sehr besorgt **üm**.
they are DA very worried about
'They are very worried about it.'

3.3 *Da*-drop

It is also possible to drop the otherwise obligatory *da(r)* morpheme in NGer, a construction that Fleischer refers to as "Präposition ohne overte Ergänzung" 'preposition without overt object' and which we call "*da*-drop". Fleischer notes the optionality of *da(r)* in (17). The two examples are drawn from the same page of a dialectal German source. In (a), *da(r)* is phonologically reduced and appears in the pronominal adverb *drin*. In (b), on the other hand, *da(r)* completely disappears, leaving only the preposition *in*:

(17) North Saxon (Feyer 1939: 27)

a. Ja, aver Hinnerk, man dröögt sik doch de Han'n nich **drin** af!
yes but H one dries self yet the hands not DA.in off
'Yes, but Hinnerk, one does not dry off one's hands in it!'

b. Dat hangt anne Wand un lett witt, un man dröögt sik de Han'n **in** af.
that hangs on=the wall and looks white and one dries self the hands in off
'It hangs on the wall and looks white, and one dries off one's hands in it.'

3.4 Distribution of *da*-fronting *and da*-drop

According to Fleischer (2002), the regions where *da*-fronting occurs are a superset of those where *da*-drop occurs, as can be seen in Figures 1 and 2. *Da*-drop and *da*-fronting are possible only with consonant-initial prepositions in the lighter shaded areas, but with both vowel- and consonant-initial prepositions in the darker shaded areas. (Note the location of Berlin and Potsdam in the lighter shaded areas; this will be relevant for the experiment described in section 6.)

Figure 1: Attestation of *da*-fronting with all Ps (darker shading) and with only C-initial Ps (lighter shading). From Fleischer (2002: Appendix).

Figure 2: Attestation of *da*-drop with all Ps (darker shading) and with only C-initial Ps (lighter shading). From Fleischer (2002: Appendix).

In modern colloquial German, *da*-fronting is more widespread than Figure 1 suggests. Fleischer's data are based on dialect atlases and dictionaries that rely on attested written examples, so the absence of a construction from a given source could be accidental, and speech may be more liberal than writing. In other words, his maps are conservative. By contrast, questionnaire studies, e.g. by Elspaß & Möller (2003ff.), while still showing a predominantly Northern distribution for *da*-fronting, find occasional attestations in even the southernmost states of Germany (Baden-Württemberg, Bavaria). It would thus be misleading to claim this is an exclusively Northern phenomenon.

The *da*-drop construction, on the other hand, is not found in southern dialects. Furthermore, Oppenrieder (1991) states that not all speakers who accept *da*-fronting accept *da*-drop. This is reflected in comparing Figures 1 and 2, where e.g. the Mosel area allows *da*-fronting but not *da*-drop according to Fleisher's data. Thus, there seems to be a one-way implication: all speakers who can *da*-drop can *da*-front, but not vice-versa.

As an initial causal link between *da*-drop and *da*-fronting, Fleischer (2002: 408) points out that if *da* can be fronted to first position, then another drop construction, namely Topic Drop (= dropping of the constituent in Spec-CP), could explain why *da(r)* is absent from that first position in a V2 clause, resulting in a V1 order such as the response in (18):

(18) Q: Wie ist's mit Bruckner?
how is.it with B
'How's it going with Bruckner?'

A: **Ø** Kenn ich eigentlich nicht so viel **von**.
know I actually not so much about
'I really don't know much about it.' (Negele 2012: 119)

But there remain many examples of *da*-drop that exclude this analysis because the first position (XP preceding the finite verb) in a matrix clause is filled or because they occur in embedded clauses.[9] These include the standard German examples in (19) collected by Oppenrieder (1991) to make this point, and the dialect examples in (20) and (21) from Fleischer:

[9] Such examples have been independently attested in corpus analyses by several authors: Breindl (1989), Negele (2012), Jürgens (2013), Otte-Ford (2016), Freywald (2017).

(19) a. der Otto Flasnöcker kann ein Lied **von** singen
the O. F. can a song about sing.INF
'Otto Flasnöcker can tell you a thing or two about it.'
[idiom; lit. 'sing a song about it']

b. …dann sind sie abends oft so müde, daß sie sich überhaupt
then are they evenings often so tired that they self at.all
nicht mehr **zu** aufraffen, dann sich auch noch mal um ihre
not more to bring then self also again about their
Kinder zu kümmern
children to care
'…then they are often so tired in the evenings that they no longer can bring themselves to it at all: to also take care of their children once again.' (Breindl 1989: 146)

(20) Hamburgish (Saltveit 1983: 323)
Also büst du wedder nich **bi** wesen.
so are you again not at been
'So you weren't there again.'

(21) Brandenburgish (Landemann 1956: 338)

a. Der hät den janßen Noamiddach **bei** tuejeracht.
he has the whole afternoon at spent
'He spent the whole afternoon at it.'

b. Der hät lange **föä** jespäält.
he has long for played
'He [an organ grinder] played [music] for a long time for it [a penny].'

In (19a), the subject of the clause occupies first position. Similarly, in (20) and (21), first position is overtly filled. Moreover in (19b), *da*-drop occurs in an embedded clause, where Topic Drop is not possible (Cardinaletti 1990).

Thus, Topic Drop cannot explain the absence of *da(r)* in (19)–(21) and cannot explain any general correlation between a speaker's allowing *da*-fronting and *da*-drop. Nonetheless, the geographic relationship discussed above suggests there could be such a link, a possibility we return to in section 7.

4 Comparison

Having introduced BrEng POGs and NGer *da*-drop, this section draws a comparison between them. While the two complement-less preposition constructions share broad distributional and descriptive similarities, there seem to be deeper syntactic and semantic differences, as detailed below.

Starting with the similarities, we can observe that both constructions are dialectically restricted and that there is considerable regional variation as to which prepositions they occur with. Another similarity is that the omission of the proform is restricted to inanimates. (For the German *da*, this is trivial since it can only refer to inanimates.)

Turning to the differences, the omitted proform in German is homophonous with the locative proform, which is not the case in English (viz. *there*). Further, the BrEng POG construction shows a semantic restriction on the prepositions, whereby only locative/spatial prepositions allow the omission of the proform. In NGer, while most of the prepositions that combine with *da(r)-*, and hence allow *da*-drop, have locative uses, at least one (*für*) does not, and examples above show that the same prepositions also have many non-locative uses (e.g. 13b, 16b, 18). NGer instead has a phonological restriction: for many speakers, *da*-drop is possible only with consonant-initial prepositions.

Another difference between the two constructions concerns the predicate. In BrEng, the predicate must be *have* or *with* to allow pronoun omission; recall (8), repeated as (22):[10]

(22) a. This lift$_i$ can **have** up to 14 people in (it$_i$).
b. This lift$_i$ can **hold/accommodate** up to 14 people in *(it$_i$).

NGer *da*-drop, on the other hand, is not restricted to predicates built on *have/with* – see the examples throughout section 3. In fact, the literal translation of such a sentence comprising locative *have* and a small clause is highly marked. As shown in (23), the preferred pronominal form here would be a reflexive *sich* (a) rather than *da* (b). Dialectal *da*-drop seems impossible in this environment (c), and *da*-fronting is out of the question (d,e). Binding theory could be at issue here; where *da* usually refers to a topic supplied by prior discourse, in (b-e) it may have too local of an antecedent:[11]

[10] Or a predicate built on *have/with* – recall fn. 3.

[11] The strings in (23d,e) allow *da* to receive only the interpretation 'there', not 'it'.

(23) a. Das Hotel hat einen Golfplatz neben sich.
the hotel has a golf.course next.to itself
'The hotel has a golf course next to it.'

b. ?? Das Hotel hat einen Golfplatz daneben.
the hotel has a golf.course DA.next.to
'The hotel has a golf course next to it.'

c. ?* Das Hotel hat einen Golfplatz **neben**.
the hotel has a golf.course next.to

d. * Das Hotel hat **da** einen Golfplatz **neben**.
the hotel has DA a golf.course next.to

e. * **Da** hat das Hotel einen Golfplatz **neben**.
DA has the hotel a golf.course next.to

The final set of differences concerns the interaction of proform omission with movement. For NGer, we observed that *da*-drop occurs only in regions where *da*-fronting also occurs. Our analysis in section 7 will reify this co-occurrence into having *da*-drop depend on an earlier derivational step of *da*-fronting.

In BrEng, the pronoun cannot be overtly separated from the preposition, as shown in (24):

(24) a. * Them$_j$, these boxes have papers in t_j.

b. * These boxes <them$_j$> have <them$_j$> papers <them$_j$> in t_j.

Still, we will argue that silencing of the pronoun depends on fronting in BrEng just as in NGer, with indirect evidence coming from interactions between proform omission and the displacement of other constituents. In particular, what we call the "sentence object" (e.g. *papers* in 24, i.e. the DP following *have*) cannot be extracted if the pronoun is dropped in BrEng. In NGer, on the other hand, *da*-drop does not inhibit movement of the direct object – we will argue due to the availability of scrambling in German. The next two sections present new experimental data to substantiate this difference. Analysis of the interaction of object extraction and proform omission will follow in section 7.

Table 1 summarises the similarities and differences between BrEng POGs and NGer *da*-drop:

Table 1: Conditions on omission of P complements

	BrEng	NGer
Variability		
Dialectally restricted	yes	yes
Regional variation in Ps	yes	yes
Properties of proform & antecedent		
Omission restricted to inanimates	yes	yes
Proform homophonous with locative	no	yes
Omission restricted to locative Ps	yes	no
Locative *have/with*	required	not possible
Interaction with movement		
Option to separate proform from P	no	yes
Omission blocks extraction of object	yes (§5)	no (§6)

5 Object extraction and POGs: New data

Based on native speaker intuitions, Stockwell & Schütze (2019) suggested that A-bar movement of the sentence object is impossible with POGs, as in (25):

(25) What$_j$ does this shirt have t_j on *(it)? BrEng

At the same time, they reported that there is no such restriction with other complement-less prepositions (26) like *inside* (a) or the particle use of *on* in *have DP on* meaning 'be wearing DP' (b) (cf. section 2.4):

(26) a. What$_j$ does this box have t_j inside?
b. [What colour hat]$_j$ does your guest have t_j on?

Here we report a pilot experiment confirming the intuitions in (25) and (26) that A-bar movement of the sentence object is impossible only with POGs.

5.1 Method

The participants were 60 speakers from England, recruited via Amazon Mechanical Turk.[12] They were paid US$5 for their participation, which took approximately 10 minutes. Participants were tasked with providing acceptability ratings

[12] In addition to meeting the Amazon Mechanical Turk criterion of Location = United Kingdom, participants had to answer Yes to the following two questions: (i) Did you live in England from

on a 1–7 Likert scale (7=best) of target sentences containing the configuration DP_i *HAVE…in/on* $\{it_i/them_i$ vs. $\emptyset_i\}$. The experiment employed a 2×3 design: the prepositional complement was either (i) an overt pronoun or (ii) null (Ø); while the sentence structure involved either (a) no extraction, (b) A-bar extraction of the direct object, or (c) A-bar extraction of a non-object – the subject or an adjunct.[13] Each of the target items thus consisted of a 6-tuple of sentences. Five types of A-bar movement structures were tested across items: *which/what N* interrogatives (27), *how much/many N* interrogatives (28), restrictive relative clauses (29), topicalization structures (30), and *it*-clefts (31). There were four token sets for each of these types, yielding 20 6-tuples of target items. Each participant saw only one member of each 6-tuple, along with 28 filler sentences, for a total of 48 items to be rated:[14]

(27) *Which/What N* questions [Extraction]
- a. Those jeans have stains on them/Ø. [none]
- b. [What stains]$_i$ do those jeans have t_i on them/Ø? [object]
- c. [Which jeans]$_j$ t_j have stains on them/Ø? [subject]

(28) *How much/many* questions [Extraction]
- a. These bags have forged banknotes in them/Ø. [none]
- b. [How many forged banknotes]$_i$ do these bags have t_i in them/Ø? [object]
- c. [How many bags]$_j$ t_j have forged banknotes in them/Ø? [subject]

(29) Relative clauses [Extraction]
- a. I like that the cake has the purple icing on it/Ø. [none]
- b. I like [the purple icing]$_i$ that the cake has t_i on it/Ø. [object]
- c. I like [the cake]$_j$ that t_j has the purple icing on it/Ø. [subject]

birth until (at least) age 13? (ii) Did you speak English in the home? We restricted the location to England because we are aware of parts of the British Isles where POGs are unacceptable, e.g. Glasgow, Belfast.

[13]The adjuncts tested included *sometimes, usually*, and *often*—translation equivalents of three of the frequency adverbials used in the German experiment described in section 6.

[14]The fillers included one sentence that is grammatical in BrEng but not in most other Englishes – *Have you any idea how dangerous that is?* – which participants had to rate at least 4 out of 7; sentences (i) and (ii) of fn. 2 and another similar to (ii); eight ungrammatical catch trials, twelve grammatical catch trials, and four miscellaneous trials. The grammatical catch trials included nine with a final preposition (which might be prescriptively disfavored, like the targets with null pronouns). Participants could make no more than two errors on catch trials, where an error was defined as a rating greater than 4 on an ungrammatical item or less than 4 on a grammatical item. Data from an additional seven participants was excluded on this basis.

(30) Topicalization [Extraction]
  a. Cinema popcorn often has too much salt on it/Ø. [none]
  b. [Too much salt]$_i$, cinema popcorn often has t_i on it/Ø. [object]
  c. Often$_j$, cinema popcorn t_j has too much salt on it/Ø. [adjunct]

(31) *It*-clefts [Extraction]
  a. This envelope has the final scores in it/Ø. [none]
  b. It's [the final scores]$_i$ that this envelope has t_i in it/Ø. [object]
  c. It's [this envelope]$_j$ that t_j has the final scores in it/Ø. [subject]

5.2 Results

The mean ratings for the 20 target 6-tuples are summarized in Table 2. Numeri-

Table 2: Mean ratings by condition

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	6.40	5.46	0.94
b) Object	4.46	3.21	**1.25**
c) Non-object	6.02	5.43	0.59

cally, the null pronoun condition is always rated lower than the corresponding overt pronoun condition, a difference that is largest in object extraction. Consistent with the hypothesis that POGs are ungrammatical just when the object is extracted, only this condition is rated below 4 (the midpoint of the scale) and more than a full point below its counterpart with an overt pronoun.

To what extent are these patterns in the global means representative of the behaviour of the five A-bar movement constructions considered separately? Tables 3-7 present the mean ratings by condition for each one. Across all five construction types, POGs are always rated lower than their counterparts with overt pronouns. Moreover, object extraction with a null pronoun is always the lowest-rated of the six conditions, and is below the 4.0 midpoint in all except the *how much/many* questions.

However, the pattern seen in Table 2 whereby the decrement in acceptability from overt to null pronoun is greatest for object extraction is carried only by the first three construction types across Tables 3-5 – *which/what* and *how*

Table 3: *Which/what N* questions

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	6.48	5.43	1.05
b) Object	5.20	3.63	**1.57**
c) Subject	6.28	5.93	0.35

Table 4: *How much/many* questions

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	6.35	5.50	0.85
b) Object	6.00	4.28	**1.72**
c) Subject	5.08	4.50	0.58

Table 5: Relativization

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	5.93	5.50	0.43
b) Object	4.78	3.45	**1.33**
c) Subject	6.48	5.60	0.88

much/many questions plus restrictive relatives. It is not maintained for topicalization or *It*-clefts in Tables 6 and 7, so we examine these two constructions in more detail.

For Topicalization, it appears that object extraction with both overt and null pronouns may have been subject to a floor effect, with most item means below 2.5 and some below 2.0. We suspect that, out of context, the lack of anything explicit to contrast with the topicalized object made these sentences very awkward, despite our best efforts, as in (30b) above. As a result, we exclude the topicalization data from further discussion and analysis.

In the *It*-cleft condition, examination of item means revealed that three of the four items followed the overall patterns observed in Table 2, while one item

Table 6: Topicalization

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	6.53	5.75	**0.78**
b) Object	2.25	2.03	0.22
c) Adjunct	6.35	5.83	0.52

Table 7: *It*-clefts

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	6.70	5.13	**1.57**
b) Object	4.08	2.68	1.40
c) Subject	5.90	5.30	0.60

showed an extreme degradation in the rating for object extraction with the overt pronoun, making it actually worse than with the null pronoun. Obviously we would hope to explore in follow-up work whether this was more than a random glitch. For the moment we assume that it was just that, and exclude that item from further analysis. Table 8 shows the means across the remaining three *it*-cleft 6-tuples, which conform to the pattern of Table 2:

Table 8: Three *it*-cleft items

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	6.63	5.00	1.63
b) Object	4.33	2.50	**1.83**
c) Subject	5.63	5.57	0.06

Before looking at the POG data in more detail, let us return briefly to the contrast between object extraction with POGs versus with optionally transitive prepositions like *inside* and particle 'wearing' *on*. We tested these using the 6-tuple in (32) and two triplets like (33), respectively:[15]

[15]The null symbol in (32) is not intended to endorse any particular analysis of the intransitive

(32) *Inside* [Extraction]

a. This drawer has money inside it/Ø. [none]

b. What$_{i}$ does this drawer have t_{i} inside it/Ø? [object]

c. [Which drawer]$_{j}$ t_{j} has money inside it/Ø? [subject]

(33) 'Wearing *on*' [Extraction]

a. The performer has a costume on. [none]

b. [What costume]$_{i}$ does the performer have t_{i} on? [object]

c. [Which performer]$_{j}$ t_{j} has a costume on? [subject]

A simple examination of the means in Tables 3, 4, 5 and 8 vs. Tables 9 and 10 provides strong prima facie evidence that the latter two constructions do not degrade like POGs when their objects are extracted:

Table 9: *Inside* (32)

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	6.70	6.70	0
b) Object	6.42	6.43	−0.01
c) Subject	6.65	6.60	0.05

Table 10: 'Wearing *on*' (33)

Extraction	
a) None	6.77
b) Object	6.56
c) Subject	6.68

5.3 Analysis

Having excluded Topicalization and one *it*-cleft item, the remaining items containing POGs were grouped into interrogatives and declaratives. Tables 11 and 12

use of the preposition; we adopt it purely for notational convenience.

present the mean ratings by condition for interrogatives (8 items: 4 *which/what* N and 4 *how much/many* questions) and declaratives (7 items: 4 relative clauses and 3 *it*-clefts), respectively. As before, POGs are always rated lower than their counterparts with overt pronouns; object extraction with a null pronoun is the lowest-rated condition; and the decrement in acceptability from overt to null pronoun is greatest for object extraction:

Table 11: Interrogatives

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	6.41	5.46	0.95
b) Object	5.60	3.95	**1.65**
c) Subject	5.68	5.21	0.47

Table 12: Declaratives

Extraction	i) Overt pronoun	ii) Null pronoun	Difference
a) None	6.23	5.29	0.94
b) Object	4.59	3.04	**1.55**
c) Subject	6.11	5.59	0.52

All of this is consistent with the hypothesis that POGs are ungrammatical just when the object is extracted. To be sure of this conclusion, what we would like to know about these data is the following: given that null pronouns are always rated lower than their overt pronoun counterparts, are null pronouns in object extraction sentences rated even worse than one would expect by virtue of that main effect, plus whatever effect object extraction generally has in the relevant type of sentence? This is the essence of how Sprouse (e.g., Sprouse & Villata 2021) argues that degradation should be identified as the result of a genuine grammatical constraint violation in need of theoretical explanation: a configuration is rated substantially worse than the sum of the components that are shown to independently degrade ratings on sentences of the relevant type.[16]

[16]Consider *whether*-islands, for example, whose level of unacceptability is often taken to call for

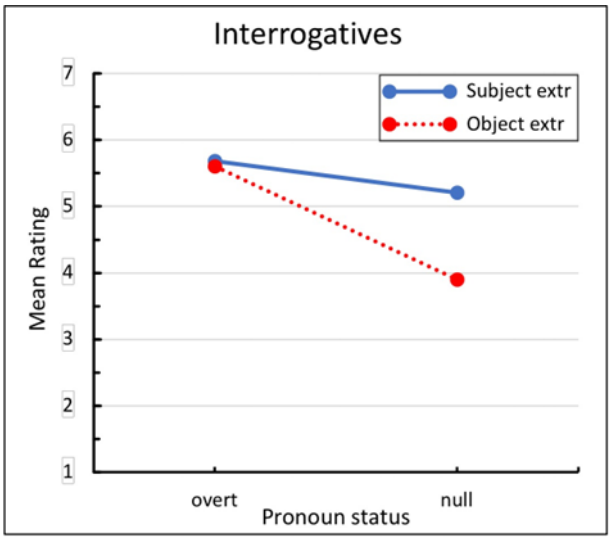


Figure 3: Condition means for BrEng interrogatives

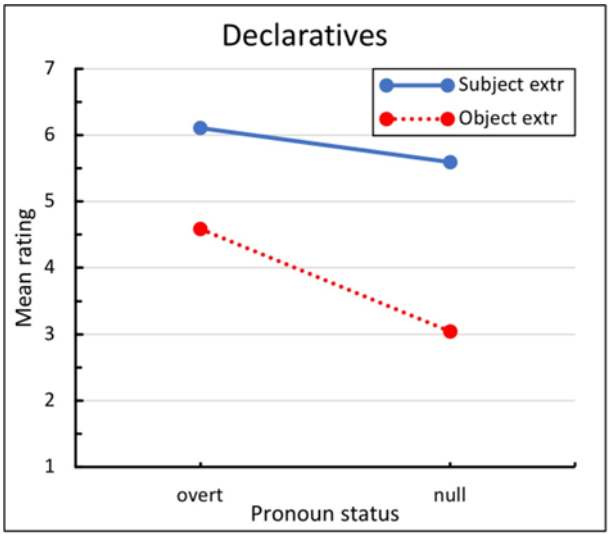


Figure 4: Condition means for BrEng declaratives

In our case, such a scenario manifests itself as an interaction between two in-

positing a grammatical constraint. However, they might instead just be hard to process, since they involve extraction from an embedded clause and the presence of an embedded polar question. To adjudicate between these possibilities, Sprouse & Villata (2021) make the following

dependent factors: whether the pronoun complement to the preposition is overt or null and whether the extraction is from object versus subject position. This

series of comparisons of ratings among the paradigm in (i). The first two establish baseline effects: (b) vs. (a) measures the cost of long-distance vs. local extraction; while (c) vs. (a) measures the cost of processing an embedded polar question vs. an embedded declarative within a matrix *wh*-question. The third comparison, (d) vs. (a), can then show if the *whether*-island effect is greater than the sum of its parts; that is, whether long distance extraction from a polar question yields a greater decrement in ratings than the sum of the long extraction effect (b vs. a) plus the presence of polar question effect (c vs. a). If so, there is an interaction, not just two main effects, implicating the workings of a grammatical constraint:

(i) a. Who *t* thinks that Lisa invented the algorithm?
b. What do you think that Lisa invented *t*?
c. Who *t* wonders whether Lisa invented the algorithm?
d. What do you wonder whether Lisa invented *t*?

Sprouse's logic generally relies on an assumption that seems problematic in light of our data, namely that the degradation contributed by each factor to the target sentence type is independent of all other factors. In Tables 3, 4 and 8 the degradation due to a null pronoun is considerably less when the subject is extracted than in the baseline condition where there is no extraction. Absent an explanation for this difference, it is not obvious which structure – no extraction or subject extraction – provides a better estimate of the expected effect of null pronouns on object extraction. We suggest the comparison of subject vs. object extraction is the most straightforward to interpret, in that the sentences being compared are maximally similar: both involve a *wh*-operator of the same type in Spec-CP (*which/what N, how much N, how many N,* or OP_{rel}) and a semantic property (interrogation, focus, restrictive modification) not found in the no-extraction condition.

But there could be other, subtler confounds that cut the empirical pie differently. For example, we did not control for the extent to which the sentence would be acceptable (and retain the same meaning) if the entire PP were omitted (in all dialects). Among our stimuli we find a full range of acceptability of such omissions, whose endpoints are illustrated in (ii):

(ii) a. Expensive dresses usually have fancy embroidery (on them).
b. I saw that the new play has that famous actress *(in it).

When the pronoun complement to the preposition is null, then to the extent that one can deaccent the preposition (which is sentence final in all our stimuli except for some of the Topicalization items), one can "hear" the sentence as if the entire PP were omitted. This might alleviate the degradation associated with POGs for sentences like (iia) but would obviously be of no benefit to sentences like (iib). It is plausible that prosodic differences among the three structures (object extraction, non-object extraction, no extraction) differentially affect deaccenting and thus, indirectly, pronoun drop acceptability. In fact, the authors' ratings of PP optionality as in (ii) on a 5-point scale correlated significantly or marginally (sometimes positively, sometimes negatively) with experimental acceptability ratings in each of the six conditions for the data in Tables 11 and 12, with r^2 ranging from 0.15 to 0.31. We hope to explore this in future work.

pattern is clearly visible in Figures 3 and 4, which plot the means from Tables 11 and 12, respectively.

For interrogatives, ratings for subject extraction fall slightly from overt to null. The far greater fall with object extraction can be attributed to its ungrammaticality with POGs. The same goes for declaratives. Object extraction starts out with lower acceptability than subject extraction even with overt pronouns. But the steeper fall for object than subject extraction with null pronouns can be attributed to the ungrammaticality of object extraction with POGs.

The next section reports a parallel experiment for NGer to investigate whether object extraction is similarly ungrammatical in combination with *da*-drop.

6 Object extraction and *da*-drop: New data

This section reports a second experiment, which finds no evidence for a restriction on object extraction in NGer *da*-drop.

6.1 Method

The participants were 34 speakers from the Berlin/Brandenburg region recruited from the University of Potsdam subject pool,[17] from whom we collected acceptability ratings on a 1–7 Likert scale (7=best) of the final sentence in a multi-sentence two-person dialog. They were paid 10€ for their participation, which took approximately 30 minutes. The target sentence either contained a *da* fronted to the middle field or omitted *da*, and used one of the following eight consonant-initial prepositions: *zu, bei, für, von, gegen, hinter, vor, neben.*[18] The experiment employed a 2×2 design: *da* was either (i) overt or (ii) omitted (Ø); while the sentence structure involved A-bar extraction of either (a) the direct object or (b) a

[17] Of the original 39 subjects, five were excluded because they did not self-identify as native speakers of German from the Berlin/Brandenburg region or they gave three or more anomalous scores on catch trials. An anomalous score was defined as either a score on a grammatical catch trial that was lower than some score the participant gave on an ungrammatical catch trial, or a score on an ungrammatical catch trial that was higher than some score the participant gave on a grammatical catch trial. We did not exclude participants who stated that they did not speak Berlin/Brandenburg dialect day-to-day themselves; doing so would have shrunk the subject pool in half, but comparing them to active dialect speakers could prove interesting in future research.

[18] In these dialects, vowel-initial prepositions are strongly dispreferred in this construction – viz. the location of Potsdam in Figures 1 and 2 – so we could not test the closest counterparts to BrEng *in/on* (*in/auf*). *Mit* was also avoided – see Appendix.

non-object (subject or AdverbP). Two types of A-bar extraction were tested: matrix topicalization (i.e., fronting to first position in a V2 declarative clause), which applied to direct objects and AdverbPs; and restrictive relativization, which applied to direct objects and subjects. The 16 target dialogs thus involved 4-tuples of final sentences. In addition there were 32 filler dialogs (among which 10 had final sentences designated as grammatical catch items and 7 had final sentences designated as ungrammatical catch items), for a total of 48 items to be rated (each participant saw only one member of each target 4-tuple).

A target dialog exemplifying topicalization is given in (34) and another exemplifying relativization in (35). The question (a) was to be read as uttered by one interlocutor, with another interlocutor responding with (b) followed by either (c) or (d). Participants were tasked with judging the final sentence, (c) or (d):

(34) *Topicalization* [Extraction]

a. Was sind die Nebenwirkungen der Tabletten?
what are the side.effects of.the tablets
'What are the side effects of the tablets?

b. Das ist bei jedem unterschiedlich…
that is for everyone different
'That is different for everyone…'

c. Aber einen Ausschlag$_i$ kann man da/Ø häufig t_i von bekommen.
but a rash can one DA/Ø often from get
'But one can often get a rash from them.' [object]

d. Aber häufig$_j$ kann man da/Ø t_j einen Ausschlag von bekommen.
but often can one DA/Ø a rash from get
'But often one can get a rash from them.' [AdvP]

(35) *Relativization* [Extraction]

a. Wohin kann ich mich mit Computerproblemen wenden?
where can I myself with computer.problems turn
'Where can I turn with computer problems?'

b. Das kommt drauf an. In unserem Betrieb gibt es eine
that comes there.on on in our company gives it a
Computerabteilung.
computer.department
'That depends. In our company, there is a computer department.'

c. Es gibt einige Fragen, die$_i$ Service-Mitarbeiter da/Ø dort
it gives a.few questions which service-employees DA/Ø there
sicher t_i zu beantworten können.
surely to answer can
'There are a few questions that service staff there are sure to be able to answer about those [computer problems].' [object]

d. Es gibt dort Service-Mitarbeiter, die$_j$ da/Ø sicher t_j einige
it gives there service-employees who DA/Ø surely a.few
Fragen zu beantworten können.
questions to answer can
'There are service staff there who are sure to be able to answer a few questions about those [computer problems].' [subject]

The stimuli were presented in Standard German orthography rather than attempting to represent dialectal pronunciation (as in Henneberg 2017), since people are not accustomed to reading the latter.

6.2 Results

The mean ratings by condition are summarized in Tables 13 and 14 and plotted in Figures 5 and 6 for Topicalization and Relativization, respectively:

Table 13: Topicalization

Extraction	i) *da* overt	ii) *da* dropped	Difference
a) Object	4.56	3.13	**1.43**
b) AdvP	4.71	3.68	1.03

Table 14: Relativization

Extraction	i) *da* overt	ii) *da* dropped	Difference
a) Object	3.56	2.65	0.91
b) Subject	4.28	2.70	**1.58**

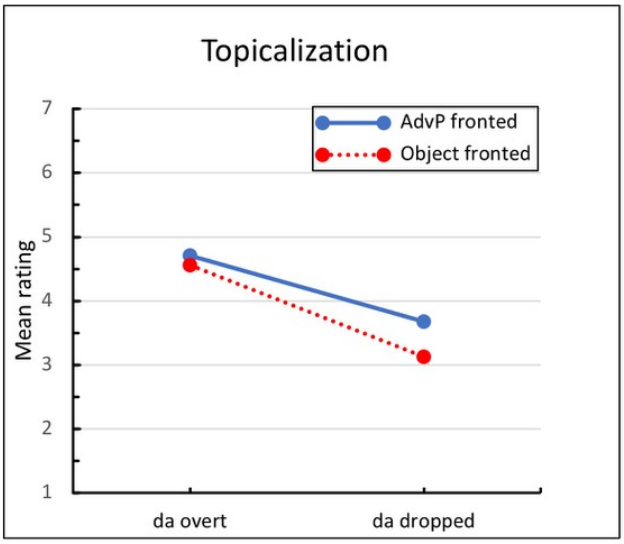


Figure 5: Condition means for NGer topicalization

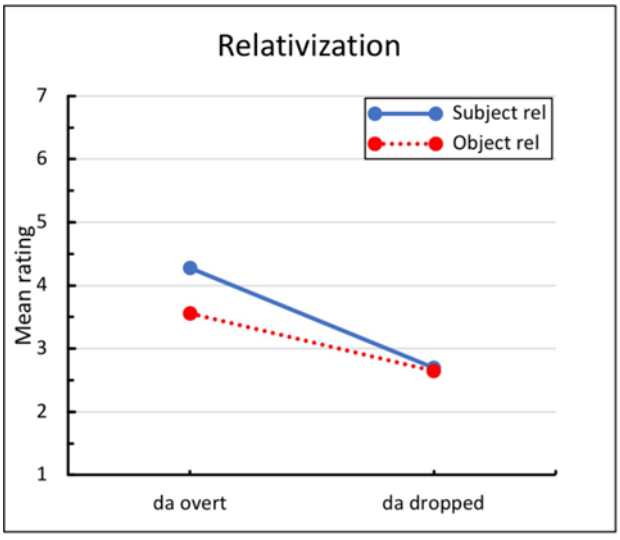


Figure 6: Condition means for NGer relativization

The results show potential interactions in opposite directions for the two clause types. Topicalization appears to fit the pattern from BrEng POGs, whereby *da*-drop degrades object extraction more than non-object (AdvP) extraction. However, NGer Topicalization lacked a direct counterpart in the BrEng data. English "Topicalization" is already semantically and syntactically quite different from German Topicalization; and in any case the Topicalization data had to be excluded from the BrEng analysis due to a floor effect.

These caveats urge giving greater weight to NGer Relativization. Here the potential interaction is numerically larger and in the opposite direction compared to NGer Topicalization: subject extraction appears to be more degraded by *da*-drop than object extraction. (This is also in the opposite direction from English Relativization, cf. Table 5.) Before making too much of the apparent greater difficulty of subject relativization combined with *da*-drop, however, it should be noted that the critical stimuli were long sequences of sentences where the judgement hinged on the presence/absence of the same very short word (*da*) in each case. It would be desirable to conduct a follow-up experiment where participants read the sentences out loud, to rule out artifacts that could arise from skipping *da* when it is present, or subconsciously inserting it when it is absent. And perhaps most importantly, both of the NGer numerical interactions (Figures 5 and 6) are roughly half the size of the BrEng interactions (Figures 3 and 4), despite involving almost identical numbers of items.

Taken together, we interpret the results of the NGer experiment as failing to provide any clear evidence for any interaction between A-bar extraction and *da*-drop. The analysis in the next section seeks to reconcile the difference between NGer and BrEng in this regard.

7 Towards an analysis of the extraction facts

This section presents an idea for how to derive the difference between English POGs and German *da*-drop with respect to object extraction. In overview, we claim that the object extraction restriction with BrEng POGs follows from the pronominal complement of the preposition A-bar moving to the left of the sentence object for silencing. The restriction would not follow on G&S's previous A-movement analysis of POGs. The A-properties of German scrambling can, however, explain why there is no such extraction restriction in NGer.

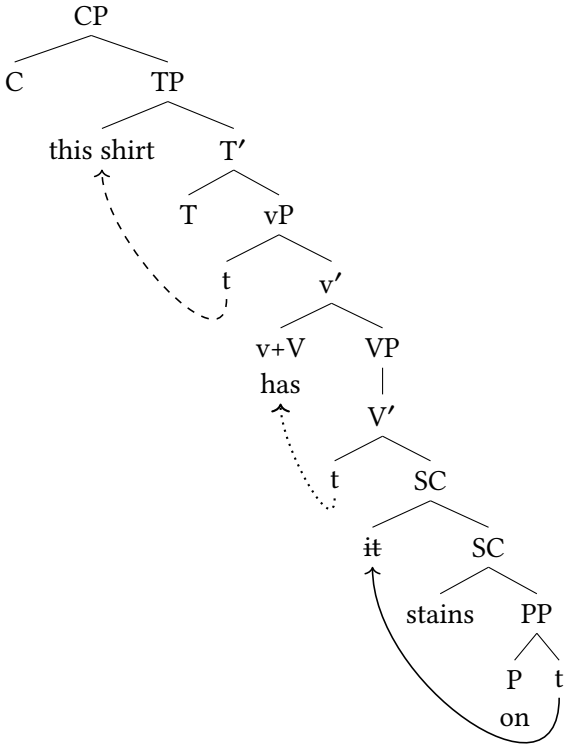
7.1 The object extraction restriction in BrEng POGs

Our analysis overall involves three crucial assumptions, two of which are relevant to BrEng POGs. The first is that pronominal complements of P need to move in order to be silenced. Circumstantial evidence for this comes from the reliance of *da*-drop on *da*-fronting in NGer. We extend this suggestion to BrEng POGs in assuming that the complement of P moves for silencing. The claim that certain elements must move in order to delete draws on several precedents in the literature; for example, Chomsky's (1973, 1977) classic analysis of Comparative Deletion. See also the analyses in Johnson (2001), Fitzpatrick (2006), and Schirer (2008).

More precisely and with respect to POGs, we stipulate that *it/them* must A-bar move to the edge of the small clause (SC) complement of locative *have* in order to be silenced; (36) illustrates:[19]

[19] We use different arrows to indicate different kinds of movement: solid for A-bar movement, dashed for A-movement, and dotted for head movement.

(36) This shirt has stains on.



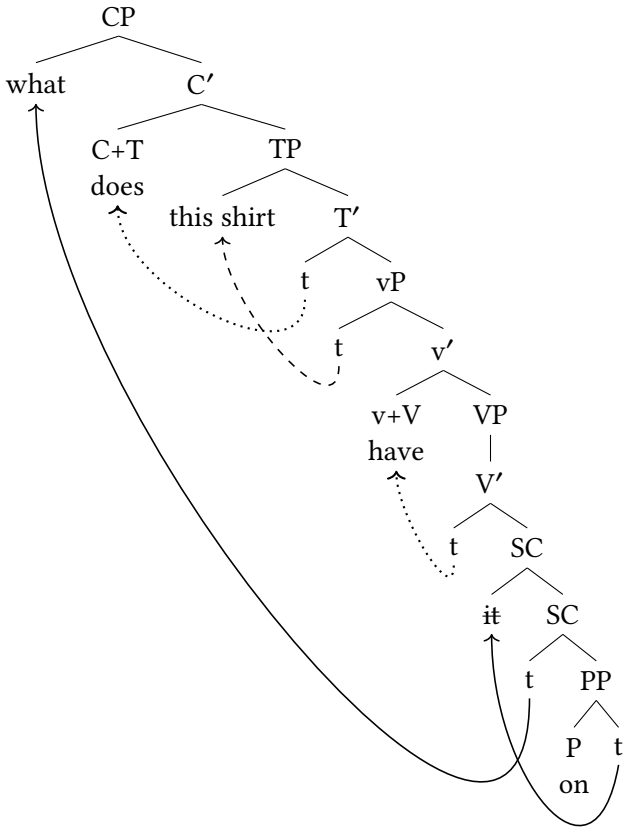
Our second assumption is that crossing A-bar dependencies are ungrammatical. That is, we adopt Pesetsky's (1982) Path Containment Condition. Crossing, in contrast to nested, A-bar dependencies yield ungrammaticality in a range of structures. The crossing (a) vs. nested (b) 'i' and 'j' dependencies in (37) illustrate this for *tough*-movement combined with *wh*-movement. Compare also the relative (un)acceptability of the crossing vs. nested *wh*-island violations in (38):

(37) a. * [Which sonata]$_i$ is [this violin]$_j$ easy [OP$_j$ PRO to play t_i on t_j]?
b. [Which violin]$_j$ is [this sonata]$_i$ easy [OP$_i$ PRO to play t_i on t_j]?

(38) a. * Who$_i$ do you know [$_{CP}$ [what subject]$_j$ PRO to talk to t_i about t_j]?
b. ? [What subject]$_j$ do you know [$_{CP}$ who$_i$ PRO to talk to t_i about t_j]?

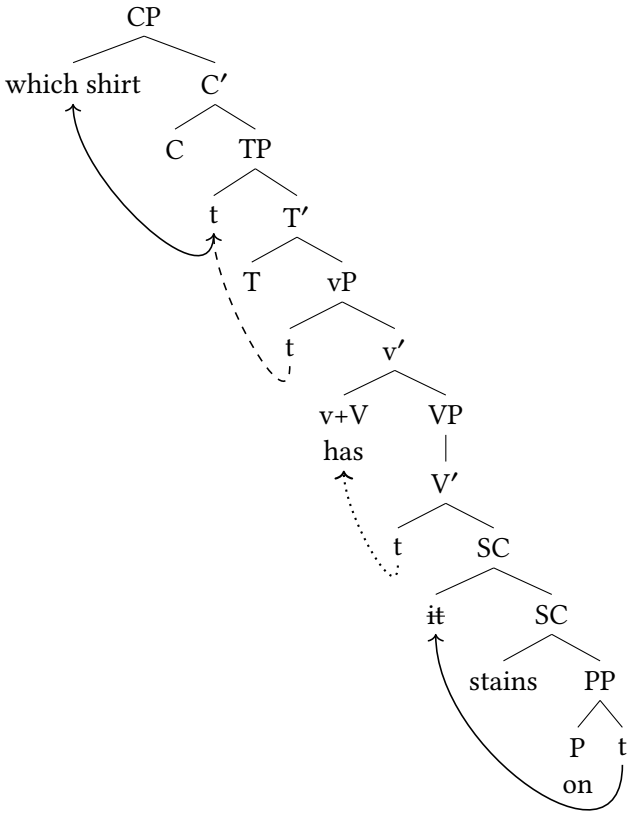
Applied to POGs, A-bar movement of the sentence object from the specifier of SC combined with A-bar movement of *it* creates crossing A-bar dependencies. Hence (39) is ungrammatical:

(39) * What does this shirt have on?



A-bar movement of subjects or AdvPs from above SC, on the other hand, does not intersect with A-bar movement of *it*. Hence (40) is grammatical:

(40) Which shirt has stains on?



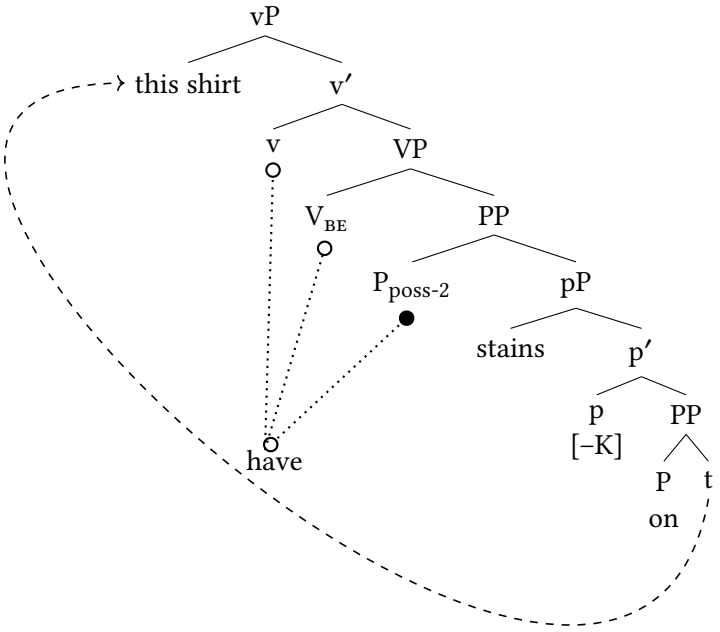
7.2 Comparison with G&S's analysis of POGs

Our analysis in terms of A-bar movement contrasts with G&S's analysis involving A-movement. G&S propose that POGs are derived by A-movement of the complement of P to subject position via spec-vP, as in (41):[20]

[20] In other words, for G&S POGs are in a Case alternation with existentials. Whereas p is not a Case assigner [-K] in (41), it would be [+K] in (i):

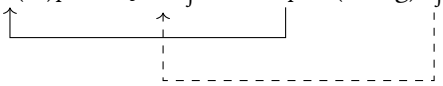
(i) There are stains on this shirt.

(41) This shirt has stains on. [G&S analysis]



The object extraction restriction would not be expected on this A-movement analysis. Crossing of an A-chain (j) and an A-bar chain (i) is not excluded, as shown in (42):[21]

(42) Who(m)$_i$ does John$_j$ strike t_i as (being) t_j selfish?



7.3 No object extraction restriction with NGer da-drop

Turning to NGer, we maintain the two assumptions presented above for BrEng POGs: crossing A-bar dependencies are ungrammatical and pronominal comple-

[21] Stockwell & Schütze (2019) argue further that the structure in (41) makes incorrect predictions regarding variable and anaphor binding. In (i), for example, since Principle A should be satisfiable prior to A-movement, (b) should be able to convey the same (trivial) thing as (a). Instead, (b) is as bad as (c) with an overt pronoun:

(i) a. Of course [my car]$_i$ is in the picture of itself$_i$.
b. * Of course [the picture of itself$_i$]$_j$ has [my car]$_i$ in t_j.
c. * Of course [the picture of itself$_i$]$_j$ has [my car]$_i$ in it$_j$.

ments of P must move in order to be silenced. As noted above, *da*-drop is possible only where *da*-fronting is also possible, suggesting that *da*-fronting feeds *da*-drop. Adopting Frey's (2004a) assumption of a medial topic position, we take movement of *da* to be to a middle field position, analogous to movement of *it/them* to adjoin to SC in POGs. However, there is no analogous object extraction restriction with NGer *da*-drop, due to the third crucial assumption in our analysis: NGer has local scrambling, which is not A-bar movement.

This assumption is founded on German local scrambling having several A-movement properties. As shown in (43) and (44), for example, scrambling of the direct object feeds binding interactions with the indirect object (Haider 2010):

(43) a. dass wer den Schülern$_i$ einander$_i$ zeigen wird
that someone the students(DAT) each.other(ACC) show will
'that someone will show the students each other'
[base order, IO > DO]

b. dass wer die Schüler$_i$ einander$_i$ *t* zeigen wird
that someone the students(ACC) each.other(DAT) show will
'that someone will show the students to each other'
[scrambled order, DO > IO]

(44) a. * dass man Peter$_i$ Peters$_i$ Vater *t* nicht übergeben hat
that one Peter(ACC) Peter's father(DAT) not surrendered has
'that one has not surrendered Peter to Peter's father'

b. dass man [den Hut des Polizisten$_i$] dem Polizisten$_i$ *t*
that one [the hat of.the policeman](ACC) [the policeman](DAT)
nicht übergeben hat
not surrendered has
'that one has not surrendered the policeman's hat to the policeman'

In (43), scrambling from the base order in (a) allows the direct object to bind the reciprocal indirect object *einander* in (b). Meanwhile in (44), scrambling of the direct object over the indirect object feeds evaluation of Condition C, triggering a violation in (a) and voiding one in (b).

In the rest of this section, we show that the A-properties of scrambling and other middle field movements create a different situation than in English. There are no crossing A-bar dependencies involved in *da*-drop, since *da* scrambles to the left edge of the middle field. This contrasts with English, where *it/them* undergoes A-bar movement.

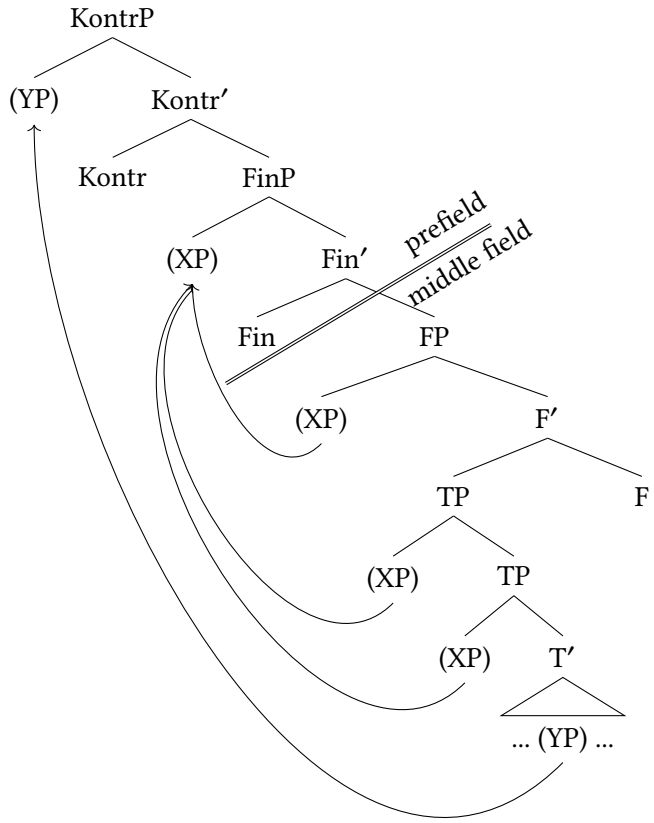
Concretely, we follow the approach put forward in Frey (2003, 2004a,b, 2006). Frey argues that topics can appear at the left edge of the middle field in a projection he calls FP. This projection is generated just above the position of sentence adverbials (like *unfortunately*, *probably*, etc.). The head F agrees with the (potentially multiple) topics in a feature [Top] and has an optional EPP feature that triggers movement of the topic(s) to Spec,FP. We assume that it is in this Spec,FP position that dropping can occur.

As for the prefield, Frey (2004b) assumes that it is made up of multiple projections – i.a. KontrP, FinP – only one of which can be filled at a time (with the specifier as the prefield element and the finite verb filling the head position). KontrP is filled by contrastive foci or contrastive topics that are A-bar moved to the prefield. FinP is the projection that is filled in most V2 sentences, namely by moving the highest element of the middle field to Spec,FinP.

If a topic has moved to Spec,FP, it will inevitably be the highest element and is henceforth promoted to Spec,FinP. If the topic remains low, then another element (e.g. the subject or a high adverbial) is promoted. The tree in (45) summarizes Frey's assumptions about the structure of the German prefield:[22]

[22]Note that German is standardly assumed not to have an obligatory EPP feature on T (Grewendorf 1989: ch.3), with the consequence that movement to TP is not necessary for agreement and case assignment; Agree would suffice for that. Rather, the TP bears tense information and might serve as a high scrambling position for the subject (cf. Heck & Himmelreich 2017).

(45) Relevant parts of Frey's (2003 et seq.) structure of the German prefield: only one projection can be filled at a time

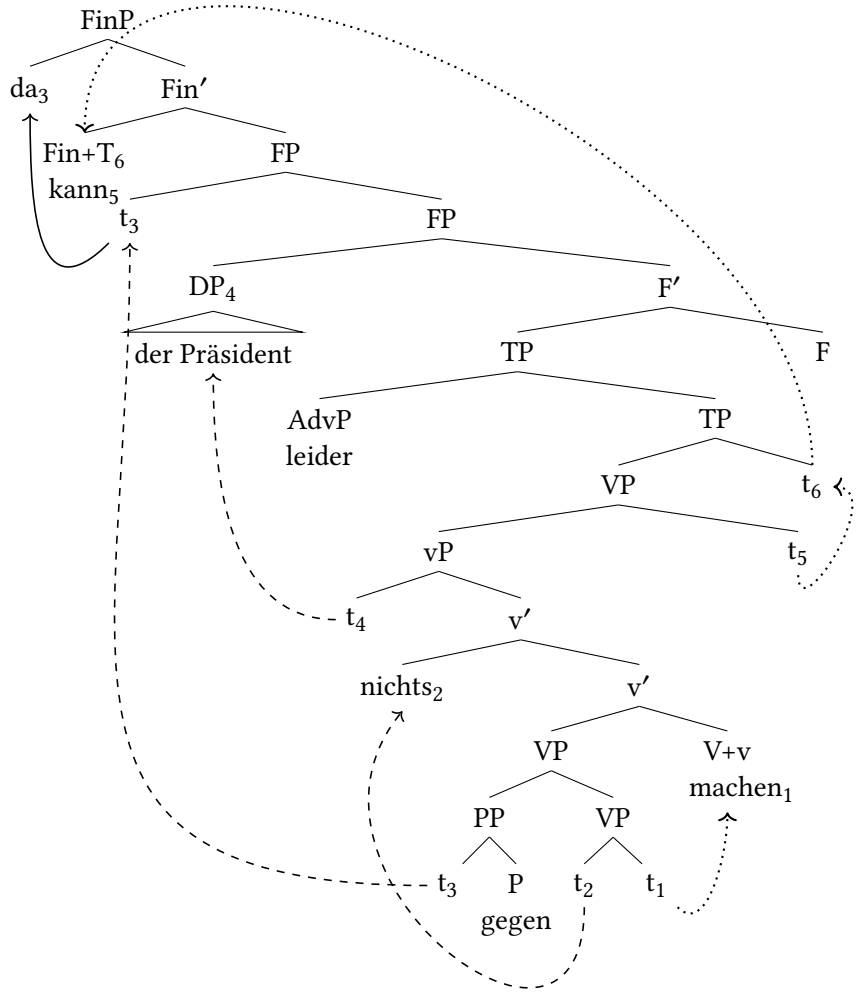


With respect to German *da*, this means that *da* can appear in the prefield if it first goes through Spec,FP. This movement is dialectally restricted to NGer, just as movement of *it/them* to adjoin to SC is restricted to BrEng. The structure in (46) illustrates:[23]

[23]Note that we do not assume that Spec,FP is the only scrambling position for *da*. For word orders of embedded clauses like (i) it is necessary to assume a scrambling position below FP. We will not discuss this issue further as it does not impact our analysis of *da*-drop:

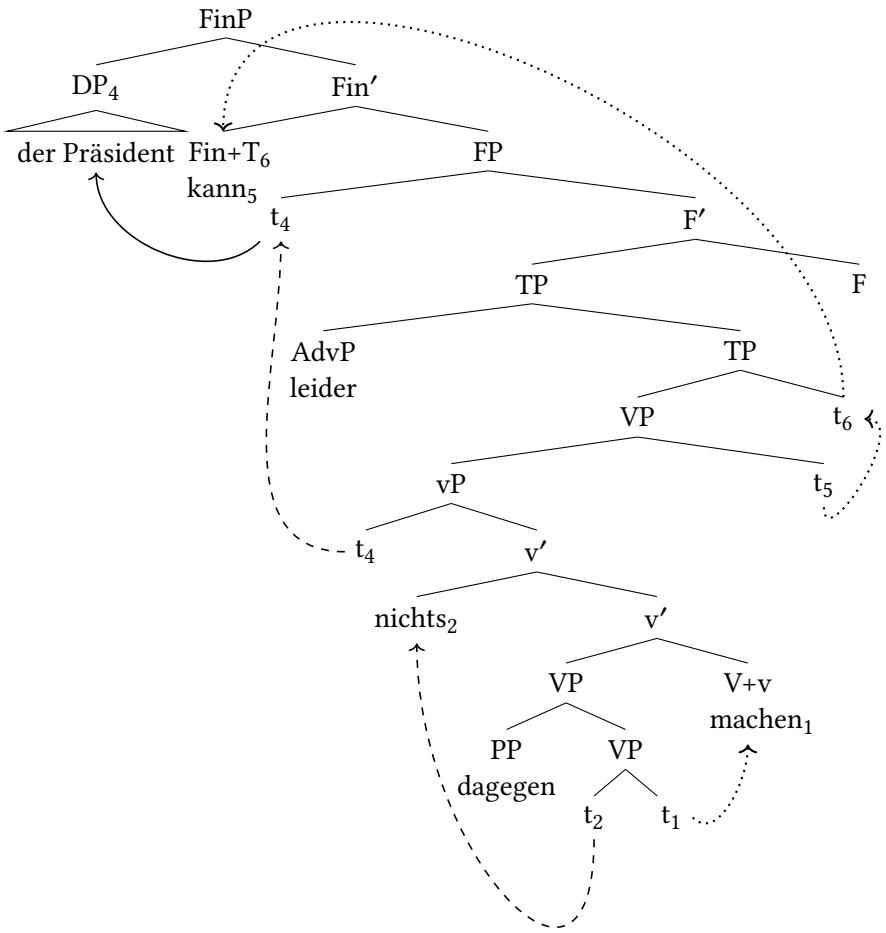
(i) dass [$_{FP}$ der Präsident [$_{TP}$ leider da nichts gegen machen kann]]
that the president unfortunately DA nothing against do can
'that the president can unfortunately do nothing against this.'

(46) Da kann der Präsident leider nichts gegen machen.
DA can the president unfortunately nothing against do
'The president can unfortunately do nothing against this.'



If, on the other hand, *da* stays in its base position, the subject can move to Spec,FinP, as in (47):

(47) Der Präsident kann leider nichts dagegen machen.
The president can unfortunately nothing DA.against do
'The president can unfortunately do nothing against this.'



Turning to dropped *da*, we assume that dropping occurs in the medial Spec,FP topic position. Deletion of *da* in Spec,FP is dialectally restricted to a subset of the speakers who allow *da* to overtly front to this position.[24] If a silenced *da* topic

[24]And among these, deletion is further restricted for a subset of speakers to cases where the stranded preposition is consonant-initial.

is still promoted to the prefield, the result is a topic drop construction, as in (48) (cf. 18). The representation would be the same as for (46), except with the *da* that reaches Spec,FinP having been silenced in Spec,FP:

(48) Ø kann der Präsident leider nichts gegen machen.
(DA) can the president unfortunately nothing against do
'The president can unfortunately do nothing against this.'

To account for dropped *da* in the middle field, we assume that if multiple topics are moved to FP, *da* can sit and be deleted in any Spec,FP. As in (49), the prefield is then filled by moving a lower element to Spec,KontrP (a, c) or the highest topic to Spec,FinP (b):

(49) a. Häufig kann man Ø einen Ausschlag von bekommen. cf. (34d)
often can one (DA) a rash from get
'Often one can get a rash from it.'

b. Man kann Ø häufig einen Ausschlag von bekommen.
One can (DA) often a rash from get
'One can often get a rash from it.'

c. Einen Ausschlag kann man Ø häufig von bekommen. cf. (34c)
a rash can one (DA) often from get
'One can often get a rash from it.'

The crucial question now is whether movement to medial topic Spec,FP behaves like A-bar movement. Frey (2004a: 33f) applies the same tests as in (43) and (44) to movement to Spec,FP and concludes that it creates new binding relationships, just like scrambling to other middle field projections. In (50), movement to Spec,FP allows the direct object to bind the reciprocal indirect object. And in (51), movement to Spec,FP feeds evaluation of Condition C to trigger violations in (a-b) and void them in (c-d):[25]

[25] We admit that this test does not definitively rule out that movement to Spec,FP could be A-bar movement. Since there are many scrambling positions in the German middle field, high scrambling (to TP) could be responsible for changing the binding relations. Still, the data are at least analogous to the behaviour in the lower part of the middle field. We leave this issue open here and simply adopt Frey's argumentation. If movement to Spec,FP turns out to be A-bar movement, our analysis would have to include more scrambling operations to achieve a structure without crossing A-bar dependencies.

(50) dass die Schüler$_i$ wahrscheinlich der Lehrer einander$_i$ *t*
that the students(ACC) probably the teacher each.other(DAT)
gezeigt hat
shown has
'that the teacher has probably shown the students to each other'

(51) a. *dass den Peter$_i$ wahrscheinlich die Polizei Peters$_i$
that the Peter(ACC) probably the police(NOM) Peter's
Vater *t* übergeben hat
father(DAT) surrendered has
'that the police has probably surrendered Peter to Peter's father'

b. *dass den Peter$_i$ wahrscheinlich Peters$_i$ Vater der
that the Peter(ACC) probably Peter's father(NOM) the
Polizei *t* übergeben hat
police(DAT) surrendered has
'that Peters father has probably surrendered Peter to the police'

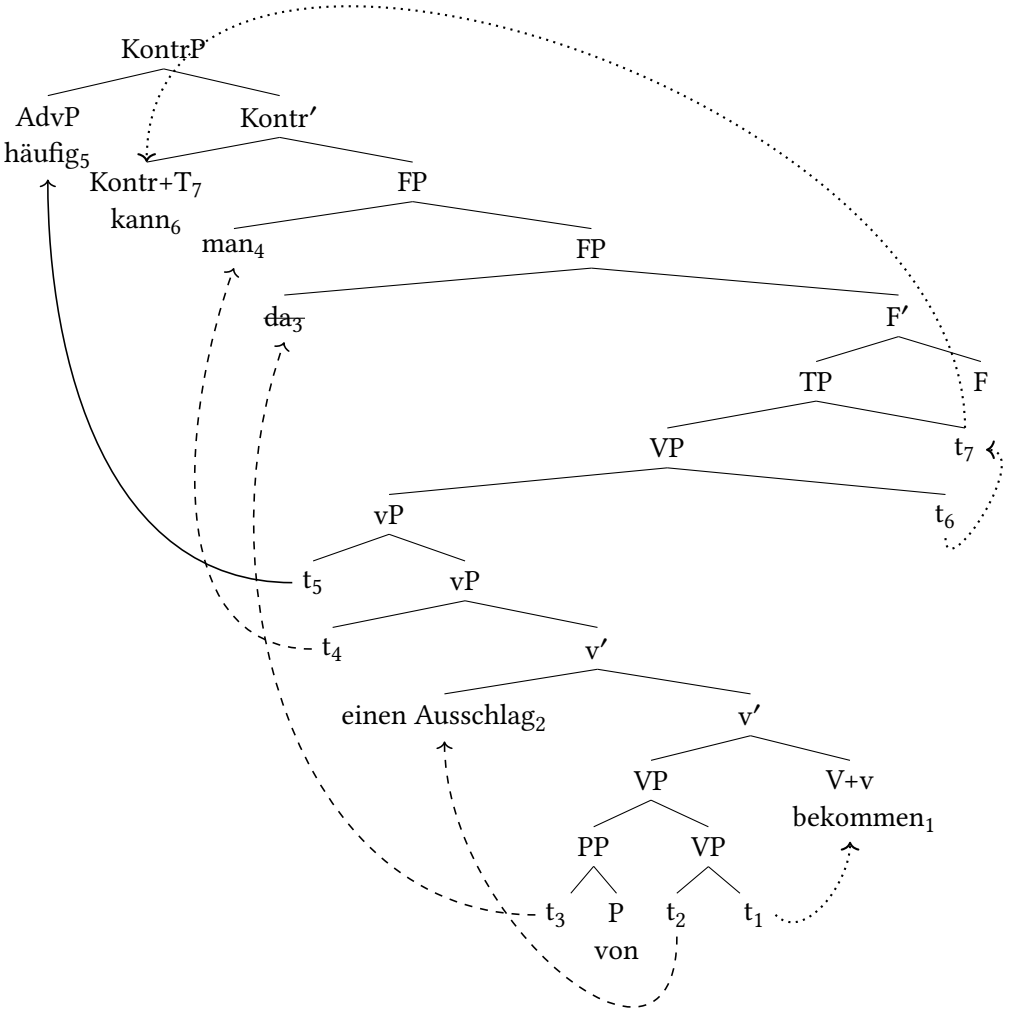
c. dass den Hut des Polizisten$_i$ wahrscheinlich der
that the hat(ACC) of.the policeman probably the
Polizeidirektor dem Polizisten$_i$ *t* übergeben hat
police.director(NOM) the policeman(DAT) surrendered has
'that the police director has probably surrendered the hat of the policeman to the policeman'

d. dass den Hut des Polizisten$_i$ wahrscheinlich der Polizist$_i$
that the hat(ACC) the policeman probably the policeman(NOM)
dem Polizeidirektor *t* übergeben hat
the police.director(DAT) surrendered has
'that the policeman has probably surrendered the hat of the policeman to the police director'

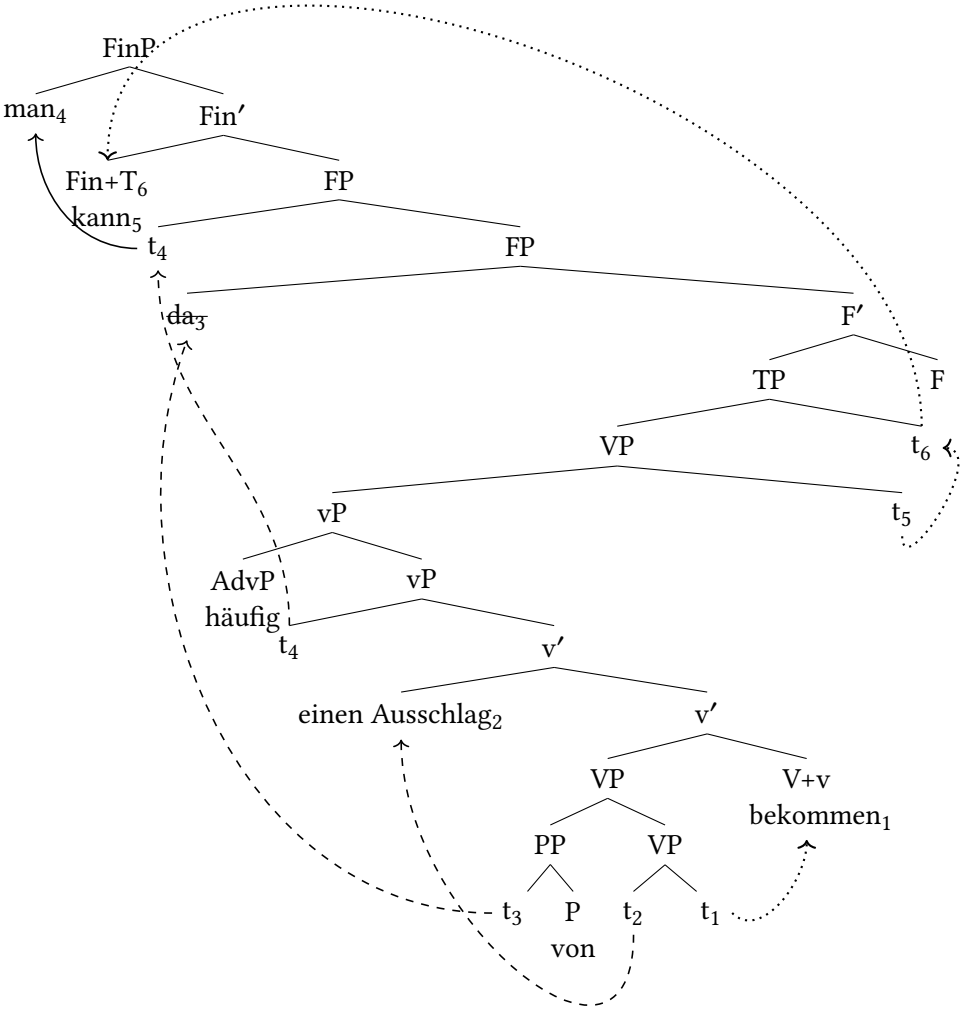
From this we can conclude that movement to Spec,FP has A-movement properties. Consequently, we predict that A-bar moving an element above the dropped *da* will not result in ungrammaticality, since, trivially, there are no crossing A-bar dependencies. The trees in (52) illustrate for the examples in (49):[26]

[26]Note that FinP is absent, on the assumption that only necessary structure is generated (Frey 2006: 251).

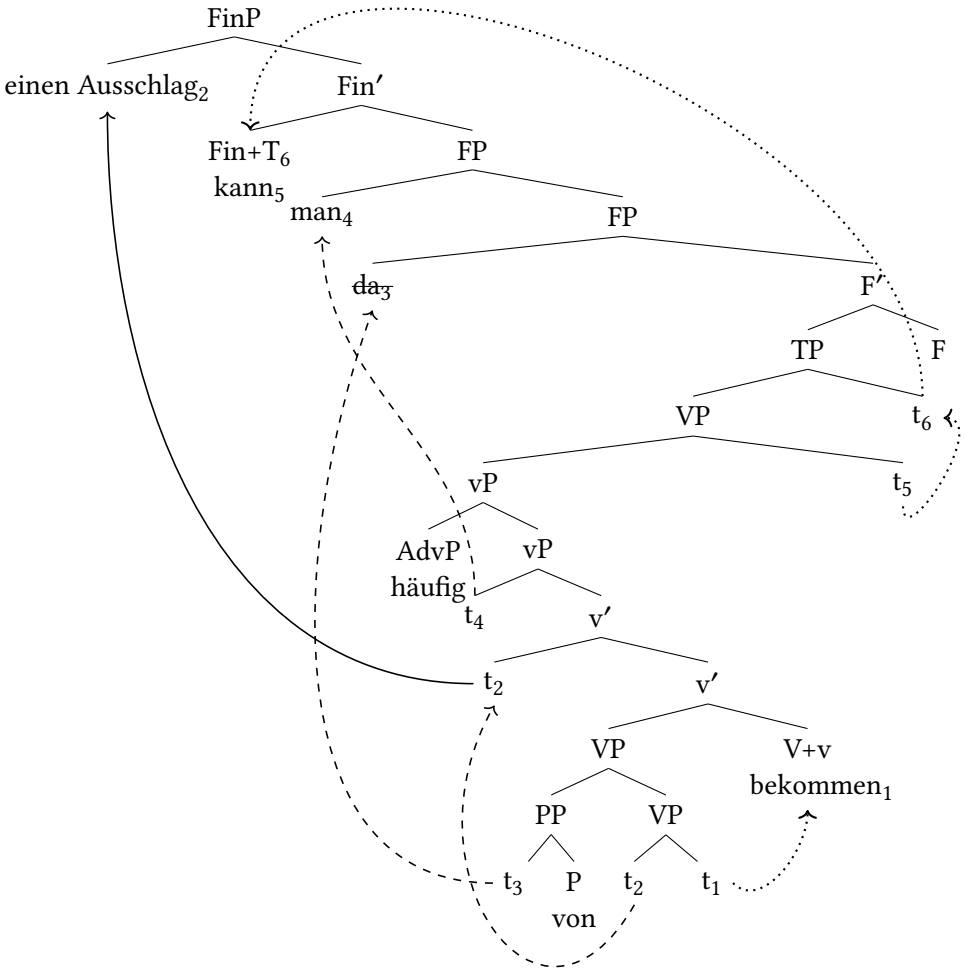
(52) a. Häufig kann man Ø einen Ausschlag von bekommen.
often can one (DA) a rash from get
'Often one can get a rash from it.'



b. Man kann Ø häufig einen Ausschlag von bekommen.
One can (DA) often a rash from get
'One can often get a rash from it.'



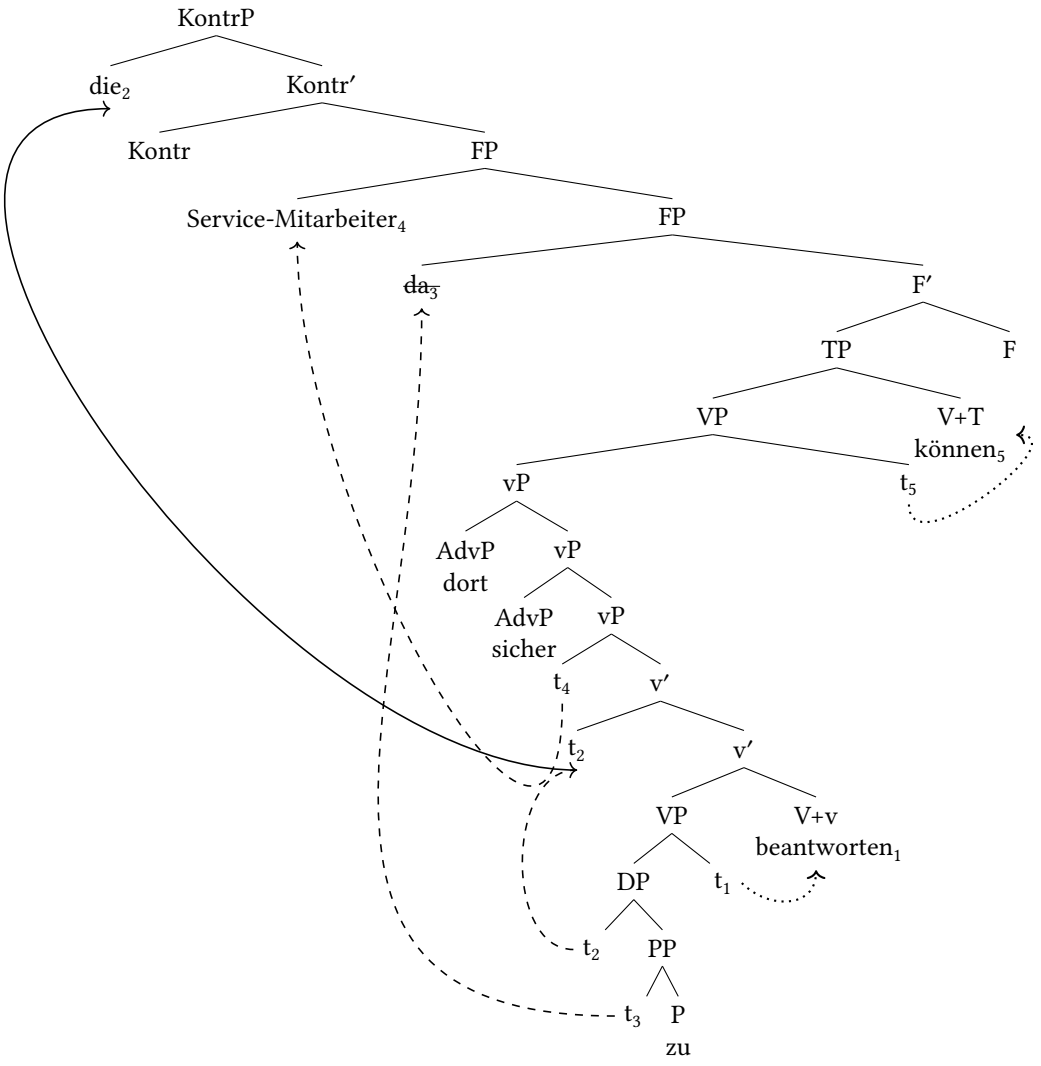
c. Einen Ausschlag kann man Ø häufig von bekommen.
a rash can one (DA) often from get
'One can often get a rash from it.'



Finally, we show what happens in relative clause constructions. As with topicalization, since movement of *da* to Spec,FP is not A-bar movement, we predict a grammatical outcome regardless of whether the object or subject is relativized. Frey does not discuss relativization, though he mentions that wh-movement targets Spec,KontrP (Frey 2006: 253). Thus, we assume that relativization also targets KontrP. Relevant derivations for object and subject relatives are shown in (53) and (54), respectively:[27]

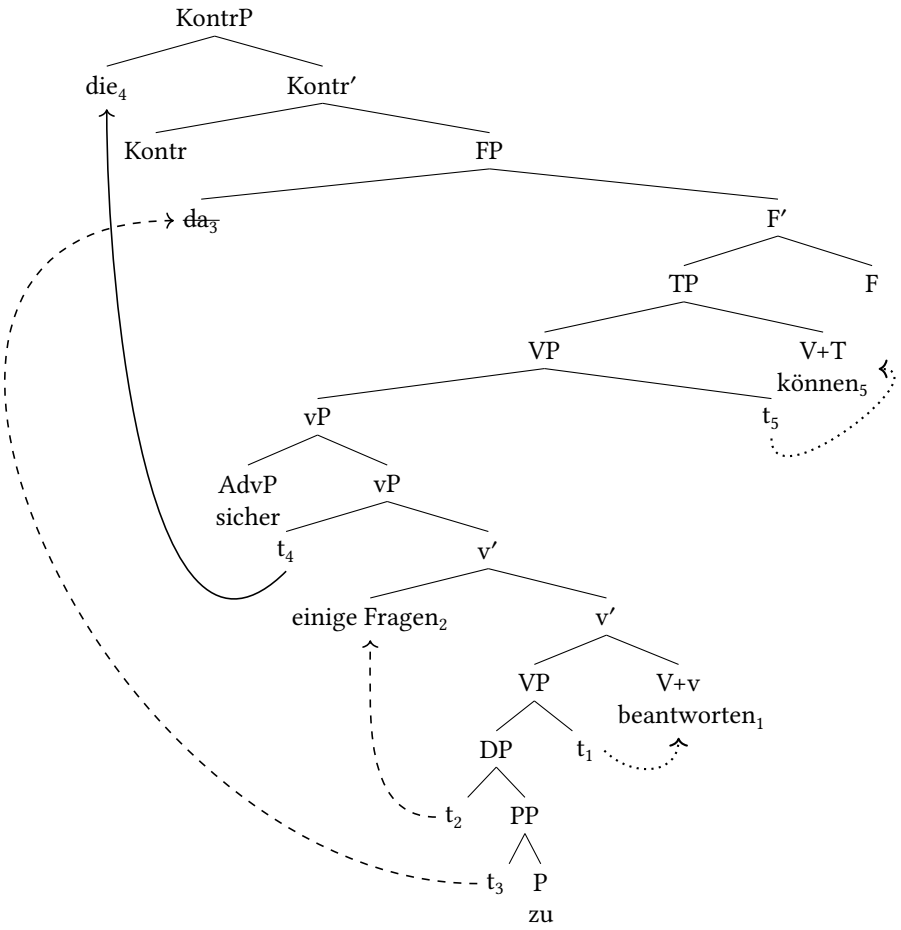
[27]We assume that the PP is modifying the noun *Fragen* 'questions' here. Even if this assumption

(53) Es gibt einige Fragen, die$_i$ Service-Mitarbeiter da/Ø dort sicher t_i
it gives a.few questions which service-employees DA/Ø there surely
zu beantworten können. cf. (35c)
to answer can
'There are a few questions that service staff there are sure to be able to answer about those [computer problems].'



is incorrect, as long as scrambling and movement to FP are not A-bar movement, the analysis predicts this sentence to be possible.

(54) Es gibt dort Service-Mitarbeiter, die$_j$ da/Ø sicher t_j einige Fragen
it gives there service-employees who DA/Ø surely a.few questions
zu beantworten können. cf. (35d)
to answer can
'There are service staff there who are sure to be able to answer a few questions about those [computer problems].'



In sum, and in contrast to BrEng, movement for dropping of the pronoun in NGer is A-scrambling. Hence no crossing A-bar dependencies arise, with the result that there is no object extraction restriction in NGer *da*-drop.

7.4 Summary

This section has presented an analysis of the difference between BrEng and NGer with respect to object extraction in constructions where a pronoun complement of P is omitted. The analysis is based on three assumptions. First, pronominal complements of P need to move in order to be silenced. In BrEng, the pronoun A-bar moves to the edge of *have*'s small clause complement; while in NGer, *da* moves to a medial topic position, Spec,FP. Second, crossing A-bar dependencies cause ungrammaticality (Pesetsky 1982). And third, middle field and other scrambling movements in German, including of *da*, do not proceed by A-bar movement.

With these assumptions, we can account for the differing sensitivity of BrEng POGs and NGer *da*-drop to object extraction. In BrEng, the pronoun has to A-bar move to the edge of the small clause in order to be silenced. This movement traps the sentence object, which is no longer able to A-bar move without creating a crossing A-bar dependency. In NGer, the pronoun still has to move for silencing. However, like scrambling to medial positions throughout German, *da* does not front by A-bar movement. Consequently, A-bar movement of the object trivially does not cross another A-bar movement path.

8 Further directions

Overall, it seems clear that BrEng POGs and NGer *da*-drop require different syntactic analyses. Our proposals above are admittedly preliminary and intended to inspire further research in this area. Although not all of the differences between the languages, nor for that matter the seemingly enticing descriptive similarities (cf. Table 1), have been explained by our accounts, ultimately a comprehensive analysis must of course accomplish as much within the confines of a restrictive theory of universal grammar. Moreover, the fact that these languages are historically related imposes further constraints on possible analyses: the theory must provide an account of the paths of historical change that led from Old English and Old German (which, as we see below, were very similar in relevant respects) to the present-day dialects (and their counterparts that lack the P-complement dropping constructions). For the purpose of enriching future work with this broader empirical context, this concluding section summarizes relevant observations from the literature on diachrony and variation.

8.1 Diachrony

The history of complement-less prepositions could shed further light on their analysis. We know almost nothing about the historical origins of POGs or *da*-

drop, and whether they arose independently in (earlier) German and English.[28] More is known about *da*-fronting in the history of both languages.

Allen (1980) and van Kemenade (1987) show that Old English had some properties in common with dialectal German: the locative proform 'there' could also serve as an inanimate 3rd person pronominal proclitic complement to adpositions (55),[29] and it could strand those adpositions (56) by moving to the left edge of VP (a)[30] or to the left periphery (b),[31] (c)[32] (Allen refers to this as scrambling; van Kemenade calls it A-bar movement):

(55) Awyrtwala grædignysse of ðinre heortan, and aplanta **þaeron** þa
uproot greediness from your heart and plant therein the
soðan lufe
true love
'Uproot greediness from your heart and therein plant true love.'

(56) a. Be þæm þu meaht ongietan ðæt þu **þær** nane myrhðe **on** næfdest
by that you might perceive that you there no joy in not.had
'From that, you could understand that you found no joy in it.'

b. þæt **ðær** nan cinu **on** næss gesewen
that there no chink in not was.seen
'that no chink was seen in it'

c. ac **ðær** comon munecas **to** on ðæs mannes forðsiðe
but there came monks to at the man's death
'but monks came to it when the man died'

However – and perhaps more surprisingly – personal pronouns could also move away from the preposition of which they were the complement, to the

[28] Visser (1963: 535) cites half a page of complement-less prepositions, but offers no discussion of what factors may have been licensing complement omission, or indeed whether the relevant prepositions were simply optionally transitive at the time.

[29] *The Homilies of the Anglo-Saxon Church*, ed. Benjamin Thorpe, Ælfric Society, London, 1844. Vol. 2, pg. 410.

[30] *King Alfred's Old English version of Boethius* "De consolatione Philosophiae", (mid-10th century), ed. Walter John Sedgefield, Clarendon Press, Oxford, 1899. Section VII, pg. 15, line 11.

[31] *The Homilies of the Anglo-Saxon Church*, ed. Benjamin Thorpe, Ælfric Society, London, 1844. Vol. 2, pg. 154.

[32] *Homilies of Ælfric: a Supplementary Collection*, ed. John Collins Pope, Early English Text Society vols. 259 & 260, Oxford University Press, 1967. Homily XI, line 171. (10th-11th centuries).

same two landing zones (57) – the left edge of VP (a)[33] and the left periphery (b),[34] (c).[35] This is different from what we saw with POGs in (24):

(57) a. þa wendon hi **me** heora bæc **to**.
then turned they me their backs to
'Then they turned their backs to me.'

b. þæt **him** eal middangeard **to** beh
that him all world to bowed
'that all the world bowed to him'

c. ac **him** cóm fýr **to** fǽrlice ehsynes
but him came fire to suddenly visibly
'but suddenly a light came to him visibly'

We do not know if there was ever a time when some P+pronoun combinations could be expressed only using *there*+P (cf. German, 13), such that prepositional complement drop would have been unambiguously *there*-drop. But if so, and if that is when dropping arose, then whatever analysis was posited for complement-less preposition sentences would have had to change once *there*+P ceased to be productive. It seems plausible that the counterparts of *it/them*, true personal pronoun complements to P, were more restricted in their behaviour than *there*.[36] This could have forced a reanalysis of the complement-less preposition construction that induced the additional restrictions found in modern BrEng but not NGer (e.g., the restriction to *have/with* etc.). The reanalysis may simply have failed in NAmEng. Östermann (1997) and Müller (2000) argue that, while pronominal adverbs (*thereat, therewith, therefore*) were still well-attested in Shakespeare, they ceased to be productive after 1400. Müller proposes a theory on which their disappearance is tied, among other things, to the loss of Wackernagel movement of

[33] *King Alfred's Old English version of Boethius* "De consolatione Philosophiae", (mid-10th century), ed. Walter John Sedgefield, Clarendon Press, Oxford, 1899. Section II, pg. 8, line 11.

[34] *The Homilies of the Anglo-Saxon Church*, ed. Benjamin Thorpe, Ælfric Society, London, 1844. Vol. 1, pg. 32.

[35] *Homilies of Ælfric: a Supplementary Collection*, ed. John Collins Pope, Early English Text Society vols. 259 & 260. Oxford University Press, 1967. Homily X, line 174. (10th-11th centuries).

[36] Indeed, German is suggestive in this regard. In NGer, proform *da* can occupy first position in a V2 clause (cf. 15), but object *es* cannot (other object pronouns may be degraded to varying degrees):

(i) * Es habe ich gesehen.
it have I seen
'I have seen it.'

pronouns. By Middle English, P-stranding by 'there' or personal pronouns was no longer possible (Fischer & Wurff 2006).

As for the history of German, Müller (2000) cites Paul (1919: sect. 139) and Lockwood (1968) for the claim that while pronominal adverbs were attested in Old High German, the possibility of separating *da(r)* from the preposition was an innovation that emerged in Middle High German, as illustrated in (58) from the works of Walther von der Vogelweide (c. 1170–c. 1230):

(58) **Dâ** mugent ir alle schouwen wol ein wunder **bî**.
DA could.2PL you all see PRTC a miracle at
'You all could see a miracle in this.'

However, Fleischer (2008) claims *da*-fronting was already attested in Old Low German, as in (59a) from the *Hêliand* (9th century); likewise Russ (1982) and Miller (2004) find examples in Old High German such as (59b) from Notker's *Martianus Capella* (c. 1000), and note that they are abundant in Middle Low and High German. A reviewer points out that there are many examples to be found in the Corpus of Historical Low German (Booth et al. 2020):

(59) a. Tho forun **thar** thie liudi **to**
dann gingen **da** die Leute **zu**
then went DA the people to
'Then the people went to it.'

b. **Dâr** spráng **ínne** éin brúnno hímeliskes lîehtes …
DA sprang in a fountain heavenly light
'In it a fountain of heavenly light sprang…'

Fronting of *da(r)* continued to be well attested everywhere through the 16th century, but after that became geographically restricted to Northern Germany.

Da-drop is less well documented historically. Fleischer (2008) can find clear examples only with *mit* (see the Appendix) in the Old German period. In Middle Low German other clear cases emerge, such as the following (from *Reynke de vos*, 1498):

(60) De quam ghelopen myt ereme wocken, / Dar se des dages
die kam gelaufen mit ihrem Spinnrocken da sie des Tages
she came running with her distaff as she the.GEN day.GEN
hadde **by** gheseten
hatte **bei** gesessen
had at sat
'She came running with her distaff, since she had sat by it all day.'

In High German, cases not involving *mit* remain rare throughout all periods; one such is from a letter by Goethe (to Sophie v. La Roche in 1775) (Paul 1919: 159):

(61) Ich weiß kein Wort **von**.
I know no word of
'I don't know a word about it.'

8.2 Other dialects and languages

Further insights could come from additional comparative analysis. Stranding of prepositions under *da*-fronting is attested elsewhere in Germanic, as the examples in (62)–(64) show:[37]

(62) a. Dutch (Zwaarts 1997: 1092)
Daar staat iemand **achter**.
DA stands someone behind
'Someone's standing behind it.'

b. Dutch (Hoekstra 2001: 781)
Ik wilde **daar** niet **op** wachten.
I wanted DA not for wait
'I didn't want to wait for it.'

(63) a. Festlandnordfriesisch (North Frisian) (Walker 1990: 23)
Deer wiitj ik nint **foon**.
DA know I nothing of
'I know nothing of it.'

b. Saterfriesisch (East Frisian) (Fort 2001: 418)
Deer weet iek iks **fon**.
DA know I nothing of
I know nothing of it.

(64) a. Old Danish (c. 1500) (Falk & Torp 1900: 315)
ther bedher ieg **om**
DA ask I for
'I asked for it.'

[37] According to Longbotham (2010), Delsing (1995) reports that P-stranding with R-pronouns is also found from the earliest stages of Swedish.

b. Jutlandic Danish (Jensen 1971: 19)
en dunk, og **der** drak de **af**
a pitcher and DA drank they from
'a pitcher, and they drank from it'

However, Fleischer (2002) is hard-pressed to find any Germanic languages besides German that display (the counterpart of) *da*-drop (except as the result of Topic Drop).[38] The only candidates he puts forward are Jutlandic Danish (65) and North Frisian (66):

(65) Jutlandic Danish (Jensen 1971: 33)
sådan en stor stykke noget stiv gullig papir med en klat rød lak
such a big piece of.some stiff golden paper with a blood red blob
på
on
'such a big piece of stiff golden paper with a blood red blob on (it)'

(66) North Frisian (Grünberg n.d.)
Ik hee en Dååler **far** deen, wen't ä̧ wān weer
I have.SBJV a dollar for given if=it not been was
'I would have given a dollar for it, if it had not been (true).'

Intriguingly, Fleischer reports there was one German dialect (spoken in Cattenstedt, Nordharz, Eastphalian) that was described by Damköhler (1927: 37) as dropping *da(r)* just in the presence of the verbs *give*, *have* and *get* (and only before the preposition *of*):

(67) a. Jif mek wat **fon**.
give me some of
'Give me some of it.'

[38] A reviewer suggests that BrEng-style POGs are attested in Afrikaans, e.g. (i):

(i) Die boks het papiere in.
the box has papers in
'The box has papers in (it).

(We have not independently verified whether all the criteria discussed in section 2 are met.) Afrikaans allows R-pronouns, but they are not compatible with POGs (ii, cf. 23a):

(ii) * Die boks het papiere daarin.
the box has papers DA.in
'The box has papers therein.'

b. Ek wil wat **fon** hebn.
I want.to some of have
'I want to have some of it.'

c. Dû drist nischt **fon**.
you get nothing of
'You get none of it.'

Appendix: *mit* – a preposition like no other

Fleischer (2000, 2002) notes that there are many non-Northern German dialects where *da*-fronting and *da*-drop are possible only with *mit*, including High Alemannic, Low Alemanic, Swabian, East Franconian, Upper Saxon, and Silesian: "In all these dialects the stranding construction and the orphan preposition construction [*da*-drop] are totally unknown with prepositions other than *mit*" (2000: 138); see (68) and (69):

(68) Zurich Swiss German (High Alemannic) (Fleischer 2002: 152)
etz mus i die Tabäle usenèè und **da** han i Müe **mit**
now must I this chart take.out and DA have I trouble with
'Now I must take out this chart and I am having trouble with it.'

(69) Colmarien (Alsatian) (Muller 1983: 260)
ï nimm d'rüet un schlâ-di **mit**.
I take the=rod and hit=you with
'I take the rod and hit you with it.'

For Zurich Swiss German, van Riemsdijk (1975: 196f.) already noted that *mit* and its negative *ooni* 'without' (70) license omission of inanimate complements, while no other prepositions do. (71) is an example van Riemsdijk considers idiomatic, with the understood complement being context-dependent but lacking a linguistic antecedent; Standard German would not use *damit* here:

(70) ɣaʒ nyyt maɣe **ooni**
you.can nothing do without
'You can't do anything without it.'

(71) iʒ daz {**mit**/**ooni**} (zɛrvis)?
is that with/without service
'Is service included/extra?'

As Fleischer notes, Zurich Swiss German, like most varieties of German, lacks an R-pronoun built on *ooni*, casting the first doubt on the idea that complement-less *mit* is really derived from *damit* in this dialect. Moreover, citing some descriptions of other non-Northern dialects listed above, Fleischer suggests that the pronominal adverb *damit*[39] has virtually ceased to be used.[40] He concludes on this basis that "*da*-fronting" cannot be literally correct as the analysis for examples like (68), and hence that dropping of a fronted *da* also cannot be the correct analysis for examples like (69). Rather, in these Southern dialects, there is no grammatical source with *da* in situ in the PP, so one must posit a silent pro-form within PPs headed by *mit*/*ooni*, and base-generate the overt *da* outside the PP in examples like (68). Without further details, this is just an argument that a process that deletes *da* is not necessary. Since *da* is not the complement of P but merely doubles it, it could simply be absent when we do not hear it. But recall that with prepositions other than *mit*/*ooni*, these dialects show no NGer-style *da*-drop: *da* always surfaces procliticized to P, and is optionally doubled. This would fit with Fleischer's observation that (only) Southern dialects are where one finds *da*-doubling, as in (72):[41]

(72) Bernese Swiss German (Greyerz & Bietenhard 1981:87)
Da hani gar nüüt **der**gäge!
da hab=ich gar nichts **da**gegen
DA have=I at.all nothing DA.against
'I have nothing against it at all.'

Given the likelihood that complement-less *mit* calls for its own analysis separate from *da*-drop, we have avoided any examples involving *mit* in the discussion in the main text.

[39] As distinct from the subordinating conjunction *damit* 'in order that'.

[40] E.g., from Muller's (1983) description of Colmarian: "Dans plusieures locutions où l'allemand dit "damit", l'alsacien se contente d'un simple "mit" ['In several phrases where German says "damit", Alsatian is satisfied with a simple "mit"']; "Das Umstandswort *damit* wird 1930 Pforzheim überhaupt abgelehnt" ['the adverb *damit* is completely rejected in Pforzheim as of 1930'] (Badisches Wörterbuch I: 412) [*Badisches Wörterbuch*. 1925–. Ed. by Ernst Ochs, Karl Friedrich Müller & Gerhard W. Baur. Lahr: Moritz Schauenburg.]; "In moderner Mundart ist das Wort [*damit*] selten; häufiger einfach Adv. *mit*" ['In modern dialect, the word is rarely *da-mit*; more often simply the adverb *mit*.'] (Schwäbisches Wörterbuch II: 44 [*Schwäbisches Wörterbuch*. 1904-1936. Ed. by Hermann Fischer & Wilhelm Pfleiderer. Tübingen: H. Laupp.].

[41] What remains mysterious is why only *mit* (and sometimes *ohne*) requires the resumptive to be silent, thereby allowing doubling to masquerade as fronting.

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