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doi:10.1017/S1360674324000285

(Negated) fragment answers in English: a discourse-oriented and construction-based perspective[1]

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(Received 3 June 2023; revised 17 May 2024)

Fragment answers involve a type of ellipsis that occurs in answers to questions and these answers can be hosted by the negator *not* (e.g. *What was his motive? Not money*). The central research questions for such a negative fragment answer concern what licenses the fragment, how we can obtain a sentential meaning from its non-sentential status and what its syntactic structure is. In attempting to answer these questions, there have been two main approaches: deletion-based sentential approaches and surface-oriented, direct interpretation (DI) approaches. This article first discusses attested data of such negated fragment answers that could challenge both directions and argues for a direct interpretation approach in which the interpretation of negative fragments is achieved by discourse machinery. The suggested approach shows that once we have a system that represents structured discourse structures, we could have straightforward mapping relations from a negated fragment answer to its proper propositional meaning.

Keywords: negated fragment answer, negation, move-cum-delete, direct interpretation, question-under-discussion

1 Introduction

A *wh* or polar question can often be answered by a fragment, rather than by a complete sentence. This fragment can be either positive or negative, as illustrated by the following attested data from the *Corpus of Contemporary American English* (COCA; Davies 2008):

(1) (a) What do you want? Coffee. (COCA 2016 MOV)
(b) What are you into these days? Not algebra. (COCA 2007 TV)

[1] An earlier version of this article was presented at the workshop of 'Fragments: Construction and reconstruction' held in conjunction with the 9th BICLCE (Biennial International Conference on the Linguistics of Contemporary English) University of Ljubljana (Slovenia), 16 September 2022 and further at Laboratoire de linguistique formelle at Université Paris Cité in 13 June 2023. I thank the audiences in these two occasions for questions and comments. My thanks also go to Anne Abeillé, Heeyeon Kim, Jungsoo Kim, Okgi Kim, Ira Noveck, Joanna Nykiel, Seulkee Park, Youn-Gyu Park and Javier Pérez-Guerra for their helpful feedback. The anonymous reviewers also deserve deep thanks for constructive criticisms and suggestions. This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2022S1A5A2A03052578).

https://doi.org/10.1017/S1360674324000285 Published online by Cambridge University Press

Both the positive fragment answer (FA) *Coffee* and the negative FA *Not algebra* are non-sentential and incomplete but function as well-formed utterances. The FAs convey the same propositional meanings as their putative sentential counterparts as given in (2), which could be constructed from the surrounding contexts (see, among others, Merchant 2004, 2016; Weir 2014, 2020; Kim 2020; Nykiel & Kim 2022):

(2) (a) I want coffee.
(b) I am not into algebra these days.

The FAs thus display a mismatch between form and meaning: there is meaning without form. In understanding such an incongruence between form and meaning in elliptical constructions, according to Merchant (2016) and others, there are three key questions to consider: structure, identity and licensing. The first question asks if there is a fully fledged syntactic structure in the seemingly elided part or not. Do FAs have a complete sentential structure or can they serve as well-formed utterances by themselves? The second question has to do with the conditions that hold between the putatively elided part and its antecedent. The question looks for identity relations between the putative clausal source of FAs and its antecedent question. The third question bears on what grammatical machinery allows such FAs.

Depending on how one answers these questions, analyses for ellipsis including FAs have diverged into two main strands: deletion-based sentential and surface-oriented non-sentential approaches. The deletion-based sentential analyses derive FAs from the clausal or sentential sources via a process of ellipsis that deletes everything except a focused constituent (see, among others, Morgan 1989; Merchant 2004, 2016; Weir 2014, 2020; Griffiths 2019). The sentential analyses are distinguished between move-and-delete and in-situ deletion approaches, as illustrated in the following for the FA in (1a):

(3) Move-and-delete approach:
$_{\text{FocP}}$ [Coffee]$_i$ [$_{\text{TP}}$ ~~I want~~ $_i$]].
(4) In-situ deletion approach:
[~~I want~~ [$_{\text{FocP}}$ coffee]].

The two approaches, as observed here, differ as to whether the FA is moved or not. Both approaches, however, take the semantic resolution of FAs to correspond to their putative clausal sources. The deletion-based approaches thus require some complexity in reconstructing the source sentences, but have a simple semantic resolution from the constructed clausal sources.

In the meantime, the surface-oriented non-sentential approach licenses FAs directly without resorting to a clausal or sentential source (see, among others, Stainton 1995; Ginzburg & Sag 2000; Culicover & Jackendoff 2005; Jacobson 2016; Nykiel & Kim 2022). Within this view, the FA *Coffee* is projected into a sentential utterance with a simple syntactic structure:

(5) [$_{\text{S}}$ [$_{\text{NP}}$ Coffee]].

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This surface-oriented syntax view, positing no syntactic structures for the unexpressed expressions, employs a special mapping mechanism to induce the propositional meaning from the FA. For instance, the FA would have the following syntax–semantics mapping, according to Culicover & Jackendoff (2005: 265):

(6) (a) Syntax: $[_{U}\ \text{Coffee}_{i}\ ^{\text{ORPH}}]^{\text{IL}}$
(b) Semantics: $F\,(X_i)$

The FA *Coffee* serves as an utterance (U) 'embedded in an indirectly licensed (IL) proposition' and this FA (orphan) is semantically linked to an appropriate antecedent (through the function *F*) provided by the context to yield the meaning such that I want coffee. The approach has quite a simple syntactic structure but brings about complexity in the semantic resolution that requires a special mapping from the surrounding discourse structure.

Both the deletion-based sentential and the non-sentential approaches have their own merits as well as complexities. However, as noted by Kim (2020), Weir (2020), Cappelle (2021) and others, both are challenged by negative FAs like (1b). Consider the following attested examples:

(7) (a) Who's a fast reader? Not me.
(b) Have you seen her? Not myself.

We could easily observe that the putative clausal sources built upon syntactic identity with the antecedent question are not acceptable:

(8) (a) *Not me is a fast reader.
(b) *Not myself have seen her.

The deletion-based analyses need to introduce additional mechanisms to construct acceptable putative clausal sources for such negated FAs. The surface-oriented analyses also need to address the question of linking the accusative remnant *me* or *myself* in (7) to the nominative subject argument to yield a proper semantic resolution.

This article reports an empirical investigation of negated FAs and then provides an analytical analysis that could account for the grammatical behavior of attested negated FAs. It first reviews existing arguments for the deletion-based sentential analyses that assume clausal syntax for the unexpressed parts in both positive and negative FAs. The article then discusses empirical data extracted from COCA to see how negated FAs are used in daily life. The attested data show us that negated FAs refer to the syntactic or even semantic structures of the antecedent question, but their flexible uses are often associated with discourse structures. Based on this empirical investigation, the article offers a discourse-based direct interpretation (DI) approach that projects a non-sentential utterance from negated FAs without resorting to sentential structures. In particular, the approach, developing but departing from Kim (2020), suggests that the negator syntactically combines with a remnant XP but semantically can scope over the remnant as well as over the propositional meaning of the FAs (negator plus a remnant). This approach is supported by the fact that in negated FAs, the negator can often be

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interpreted as either constituent or sentential negation. For the proper semantic resolution of negated FAs, the article demonstrates that we just need a structured discourse that can lead to a systematic semantic resolution process from simple syntax.

2 Deletion-based sentential analyses for positive fragment answers

2.1 Arguments and issues for the postulation of clausal sources

As noted, the deletion-based sentential approaches introduce a clausal source for each positive FA. Key arguments for this direction come from connectivity effects between FAs and their correlates (counterparts) in sentential sources. One often-cited connectivity effect is related to case matching. As noted by Morgan (1989), Merchant (2004) and others, the case marking of the FA is the same as the corresponding NP's case marking in a full sentential answer, as seen from the following English and Korean examples:

(9) Q: Whose car did you take?
A1: John's./*John.
A2: I took John's/*John car.

(10) Q: Nwukwu-lul manna-ss-ni? (Korean)
who-$_{ACC}$ meet-$_{PST\text{-}QUE}$
'Who did you meet?'
A1: Mimi-lul. 'Mimi-$_{ACC}$'/*Mimi-ka. 'Mimi-$_{NOM}$'
A2: Mimi-lul/*Mimi-ka manna-ss-e.
Mimi-$_{ACC}$/Mimi-$_{NOM}$ meet-$_{PST\text{-}DECL}$
'(I) met Mimi.'

The genitive case marking of the FA *John's* in (9A1) needs to match that of its correlate *whose* in the sentential answer. In Korean, the case-matching constraint between the FA and its correlate is also observed. The FA in (10) needs to have the same accusative case as its correlate in the antecedent question (see Nykiel & Kim 2022).

A similar connectivity effect is observed with respect to binding properties. An FA displays the same binding properties as its correlate in the putative sentential source (Morgan 1989; Merchant 2004). Observe the following:

(11) Q: Who does John like?
A1: Himself/*Herself.
A2: John likes himself/*herself.

(12) Q: Where is he$_i$ staying?
A1: *At John$_i$'s apartment.
A2: *He$_i$ is staying at John$_i$'s apartment.

The FA anaphor *himself* in (11A1) takes the same form as the corresponding argument within the full sentential answer in (11A2), observing Binding Condition A. The

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R-expression within the FA in (12A1) must be free to observe Condition C, as it is in the full sentential answer.

Facts about prepositional stranding also display a connectivity effect. As noted by Merchant (2016) and others, in languages like English that allow prepositional stranding, an FA could be either a PP or a bare NP, while languages like German that do not allow the stranding would have only a PP as a possible FA in the corresponding situation.

(13) Q: With whom was Peter talking?
A: (With) Mary.

(14) Q: Mit wem hat Anna gesprochen?
with whom has Anna spoken
'With whom has Anna spoken?'
A: Mit dem Hans./*Dem Hans.

A creative way to account for this contrast, as suggested by Merchant (2016), is to assume that these FAs are all connected to clausal sources. The clausal source of the FA could be either of the following two since it allows the preposition to be stranded or pied-piped:

(15) (a) [Mary ~~[Peter was talking with]~~].
(b) [With Mary ~~[Peter was talking]~~].

The clausal deletion would generate the two possible FAs in (13), *With Mary* and *Mary*. However, since German disallows prepositional stranding, *Dem Hans* in (14), corresponding to (15a) in English, cannot serve as a proper FA. The properties concerning prepositional stranding appear to support an A′-movement of the FA and a deletion process.[2]

As an additional argument for the move-cum-delete analysis, Merchant (2004) and subsequent work refer to island effects. FAs seem to observe island constraints including the Complex Noun Phrase Constraint (CNPC) and the Adjunct Island (see the next section for island repairing examples):

(16) Q: Does Abby speak the same Balkan language that *Ben* speaks? (CNPC)
A1: *No, Charlie.
A2: No, she speaks the same Balkan language that *Charlie* speaks.

(17) Q: Did Ben leave the party because *Abby* wouldn't dance with him? (Adjunct Island)
A1: *No, Beth.
A2: No, he left the party because *Beth* wouldn't dance with him.

The italicized expressions in (16Q) and (17Q) are within an island and thus cannot be candidates for movement. This is why the FA referring to these cannot be a licit one.

Another argument for move-cum-delete sentential approaches concerns the presence of the complementizer *that* (Merchant 2004, 2016). The embedded complementizer cannot

[2] See Lemke (2021: ch. 3), Nykiel *et al.* (2023) and references therein for counterevidence to connectivity effects in English and German.

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be omitted in FAs if it cannot be topicalized in the full sentential counterpart, as seen from the following illustration:

(18) Q: What are you ashamed of?
A1: *(That) I ignored you.
A2: That I ignored you, I am ashamed of.
A3: *I ignored you, I am ashamed of.

The requirement of the complementizer in the FA could be relegated to the contrast between A2 and A3. This contrast is often taken to further support sentential approaches.[3]

As reviewed so far, connectivity and island effects seem to support the idea that FAs are derived from sentential sources and may undergo move-and-delete operations. However, as we will see in what follows, there are also a substantial number of syntactic environments that display anti-connectivity as well as island insensitivity effects, which could argue against the postulation of clausal sources for FAs and the application of move-cum-delete operations (see Nykiel & Kim 2022 and references therein for this point too).

2.2 Arguments against for move-cum-delete sentential approaches

As noted in the previous section, several diagnostics seem to support the postulation of clausal sources for FAs as well as A′-movement and deletion operations. Two questions then follow: whether it is possible to construct putative sentential sources for all the FAs and if the movement and deletion operations for FAs are locally controlled.

The postulation of clausal sources for all FAs is first challenged by the difference between full clauses and FAs (or their putative clausal sources). Jacobson (2016) notes different entailment relations between full clauses and FAs with the following data:

(19) Q: Which math professor left the party at midnight?
A1: Well, Jill left the party at midnight, but I don't think she's a math professor.
A2: Well, Jill, #but I don't think she's a math professor.

As seen from the contrast here, in A1 with the full clause, Jill's being a math professor could be cancelled, but in A2 where *Jill* is an FA, this entailment relationship cannot be cancelled. This difference implies that FAs have different properties from full clauses, challenging sentential-based analyses.[4]

[3] Goldberg & Perek (2019) and Cappelle (2021) note that the connectivity effects we find in ellipsis are to facilitate the interpretation of the elliptical material. In this respect, the requirement of *that* in FAs as in (18A1) could be interpreted as a processing reason rather than as syntactic connectivity: its absence in examples like (18A1) would make it hard for a parser to process. See also Lemke (2021: ch. 3.3) for an investigation into complementizer deletion in English and German, which questions whether the deletion is motivated by a movement restriction.

[4] A similar issue arises from FAs with correction as in the following (Lipták 2020):

(i) A: Where are you running to?
B: To school, but I am not running.

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More perceived obstacles of the sentential approaches lie in the FAs for which no clear putative clausal sources could be constructed. As noted by Stainton (1995) and others, FAs are often introduced in the discourse initial position with no overt linguistic antecedent. Such FAs, we often encounter in daily life:

(20) (a) [In a taxi.] To the airport, please.
(b) [In a cafe.] A cappuccino, please.
(c) [In a sales shop.] No check, please.

One may take such examples as a different class of FAs, but there are prevalent examples with no determined sentential sources. Consider one simple attested example, discussed by Kim (2020):

(21) A: Why are you so nervous?
B: Coffee. (COCA 2007 MOV)

There could be more than one possible sentential source for this simple FA. The following could all serve as candidates for the clausal source:

(22) (a) I am so nervous because of coffee.
(b) Due to coffee, I am so nervous.
(c) The reason is coffee.
(d) It is coffee that makes me so nervous.
(e) Coffee makes me nervous.
(f) …

The flexible uses of such an FA seem to question any sentential approach that derives FAs based on the constructed sentential sources.

Further challenges come from connectivity effects. FAs typically display connective effects between an FA and its correlate in the putative clausal source. However, there are also examples where these connectivity effects break down. The first phenomenon concerns case mismatches, which we have seen earlier:

(23) (a) Who did Kim meet? Him/*He. (Kim met him/*he.)
(b) Who met Kim? Him/*He. (*Him met Kim./He met Kim.)

The pronoun FA to an object question needs to be accusative, matching the case value of the two. However, the FA to a subject question displays a case mismatch: the proper FA is accusative, but its correlate in the putative clausal source is nominative. For such a case mismatch, the sentential approaches need to refer to a default case system for English, but not for languages like Serbian or Korean that allow no such case mismatches (see Morgan 1989; Kodner 2022; Nykiel & Kim 2022).

The fragment *To school* here serves as an answer to the preceding *wh*-question, but this is followed by a correction sentence that negates the original verb. The key issue of such a dialogue is that the putative clausal source (#*To school I am running, but I am not running*) for the fragment contradicts the following denying sentence. See Lipták (2020) and Kim (2021) for detailed discussion of such FAs with correction.

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There are also issues about identity relationship between the understood material in ellipsis and its antecedent (Merchant 2016). With respect to case features as well as syntactic category, FAs favor having structural identity with their antecedent. For instance, the preposition value of the PP is identical to that of its correlate:

(24) (a) Dash found out about what? About Killian and me. (COCA 2013 TV)
(b) Relinquishing to whom? To you. (COCA 1993 TV)

Such examples, where the preposition value of the FA matches that of the underlined correlate in the antecedent clause, would support the syntactic identity condition (Merchant 2016 and others). However, when the FA and the antecedent involve a negation and a quantifier, we need to refer to semantic identity (Merchant 2016; Weir 2020; Kim 2024). Consider the following attested data:

(25) (a) What's not to love in this song and video? Nothing. (COCA 2016 MAG)
(b) What are you not telling me? Nothing. (COCA 2005 MOV)

The putative sentential sources of these FAs, constructed by referring to the syntactic identity of the antecedent clause, would yield non-standard English:

(26) (a) Nothing is not to love in this song and video.
(b) I am not telling you nothing.

The FAs in (25) are better understood as 'Nothing is to love in this song and video' and 'There is nothing that I am not telling you'.

There are also issues in the movement operations. It is widely accepted that movement in ellipsis constructions is focus-motivated (see, among others, Merchant 2004; Weir 2015; Griffiths 2019). However, movement operations for FAs are immediately questioned by the fact that focus fronting is restricted only to contrastive focus. As shown in the following, the fronted object with no contrastive value is illicit, while the corresponding FA is quite natural, as noted by Valmala (2007), Weir (2020) and others:

(27) Q: What did Susan eat?
A1: #Spinach, she ate.
A3->A2: Spinach.

Note that not only bare nouns but also bare quantifier phrases are also resistant to focus fronting (Valmala 2007; Weir 2020):

(28) (a) *Someone, I will talk to _____/??Everyone, I will talk to _____.
(b) *It's someone I will talk to _____/??It's everyone I will talk to _____.

In contrast, the quantifier phrases can function well as FAs, as observed from the following attested data:

(29) (a) Who doesn't like me? Everyone. (COCA 1995 TV)
(b) What was your fault? Everything. (COCA 2019 MOV)
(c) What was that all about? Something. (COCA 2013 TV)

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The non-parallelism effect between FAs and their putative clausal sources is also observed with NPIs or free choice *any*. As noted by Valmala (2007) and Weir (2015), they cannot move under topicalization or clefting:

(30) (a) ??Any wine, John didn't buy.
(b) *It was any wine that John didn't buy.

The NPIs, however, can serve as FAs, as attested by the corpus data:

(31) (a) Are we ready? Any time. (COCA 1991 MOV)
(b) Which paper do you want, sir? Any paper. (COCA 1990 TV)
(c) Can I ask you a question? Anything. (COCA 2017 TV)

Such mismatches between what can be fronted and what can function as FAs may be resolved within in-situ approaches (see Griffiths 2019). However, note that there are still problems in postulating clausal sources for FAs. As noted by AnderBois (2014) and Weir (2015), unlike VPE, fragment answers cannot pick up antecedents which are inside parentheticals/appositives, as seen from the following contrast:

(32) A: John once killed a man.
B: Yeah, Bill.
(33) A: John, who once killed a man, is nice once you get to know him.
B: #Yeah, Bill.

The contrast here tells us that the FA cannot refer to the correlate in an appositive relative clause.

As shown in the previous section, FAs seem to be sensitive to island constraints. However, there are contexts where FAs repair an island violation, as discussed by Griffiths & Lipták (2014) and others:

(34) A: Does Abby speak the same Balkan language that someone in your syntax class speaks?
B: Yeah, Charlie.
(35) A: I hear that Abby is likely to get mad if Ben speaks to one of the guys from your syntax class.
B: Yeah, John.

Griffiths & Lipták (2014) note that when there is no contrastive information between the FA and its correlate, it is possible to repair the island violations. As in the above examples, when FAs function as an elaboration together with a response particle, FAs often license island insensitivity, as also noted by Culicover & Jackendoff (2005: 245):

(36) A: John met a guy who speaks a very unusual language.
B: Yes, Albanian.
(37) A: Did Abby meet a guy that teaches at an American university?
B: Yes, Stanford University.

Within a movement-based analysis, such island repairing examples are quite challenging. The island repairing examples imply that even the movement-based analysis needs to refer to discourse information such as contrastivity.

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3 Negated fragments: a corpus investigation

In order to investigate the authentic uses and grammatical properties of negative FAs, I performed a corpus investigation with COCA (Davies 2008). The corpus, the largest genre-balanced corpus of Contemporary American English, contains more than one billion words in eight genres (i.e. spoken, fiction, magazines, newspapers, academic, TV and movie subtitles, blogs, and web pages). Among several possible ways to extract relevant data, I used simple string searches as well as POS-tagged search to extract 'not + XP' and 'not + pronoun' FAs:

(38) (a) not XP: ? not *|* * |* * * .
(b) not PRON: ? not PRON .

The first method in (38a) searches for a sequence of the negator with one, two, or three words and yields 6,337 instances. After a random selection of 500 tokens of these as well as a manual filtering process, I obtained a total of 335 tokens (Dataset A) for this study. To augment the first method and investigate a comprehensive list for one specific domain, I adopted the second method in (38b). Of the initially obtained 497 tokens from this search method, after a manual filtering process I obtained 426 tokens (Dataset B) for the research.

I used these two datasets, Dataset A and Dataset B, for a quantitative and qualitative investigation. The variables I focused on are the syntactic category of the negated FAs, their grammatical function, covert/overt antecedent, sentential or constituent negation, and locality of the correlate.[5] The first variable examined the syntactic category of the remnants (following the negator) in Dataset A. Table 1 illlustrates the frequency of occurrence in each category.

Table 1. *Syntactic category of the remnant in Dataset A*

Syntactic category	Frequency
AdvP	118 (35.2%)
PP	111 (33.1%)
NP	69 (20.6%)
AP	26 (7.8%)
VP	8 (2.4%)
Subordinate clause	3 (0.9%)
Total	335

As shown in table 1, the predominant categories of the remnant (excluding the negator) in Dataset A are AdvP and PP, followed by NP. Here are some representative examples:[6]

[5] In addition to these variables, I checked register types, type of the antecedent question for each FA, locality of the correlate and so forth.

[6] The name of the interlocutors in the conversation is suppressed throughout the article.

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(39) (a) Have we met before? Not officially. (COCA 1993 TV)
(b) Do you have a problem? Not with you. (COCA 2016 TV)

One thing observed with the AP remnant is that the FAs are often not direct answers, but serve as describing the appropriateness of the antecedent question itself:

(40) (a) What did you need to tell me? Not important. (COCA 2007 TV)
(b) Do you want to know where I inserted it? Not interested. (COCA 2017 MOV)
(c) Did you look at that? Not funny. (COCA 2019 MOV)
(d) Has the lab been quarantined? Not necessary. (COCA 2012 TV)

The FAs here are not direct answers to the antecedent questions, but are interpreted as the following:

(41) (a) (The question is) not important.
(b) (I am) not interested (in where you inserted it).
(c) (To look at that is) not funny.
(d) (It is) not necessary (for the lab to be quarantined).

Given that these are the proper sources for the FAs here, the relationship between the understood elided parts and the antecedent question is neither syntactic nor semantic.

As for the VP remnant, FAs allow the remnant to be a nonfinite VP.

(42) (a) What's the one thing I'm really good at? Not being noticed. (COCA 2017 MOV)
(b) Can I ask you a favor? Not allowed. (COCA 2011 TV)

With the infinitival VP, its uses as an FA are often formulaic in the sense that the FA in (43a) introduces an additional fact reinforcing the point being made. The infinitival VP in (43b) is also not a direct answer to the *wh*-question, but just tells the questioner that the situation is not serious:

(43) (a) What is the meaning of destroying our train? Not to mention our town clock. (COCA 2014 MOV)
(b) What are the odds? Not to worry. Gangy brought some backups. (COCA 2005 TV)

The tokens from Dataset A also include examples where the remnants are CPs or subordinating clauses:

(44) (a) Who did that? Not for you to worry about. (COCA 2015 TV)
(b) Are they supposed to be running test today? Not that I'm aware of. (COCA 2017 TV)
(c) Will they torture us? Not if you answer their questions. (COCA 2018 TV)

The remnants in (44a) and (44b) are infinitival and finite CPs. The example in (44c) shows that the negator can combine even with a subordinate clause, whose result serves as a negated FA.

The syntactic category of the pronoun remnant in Dataset B is, needless to say, NP, but the types of pronouns and their frequencies differ, as shown in table 2.

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Table 2. *Types of pronouns in Dataset B*

Pronoun type	Frequency
me	235 (50.4%)
you	72 (15.5%)
us	25 (5.4%)
mine	21 (4.5%)
him	21 (4.5%)
everything	21 (4.5%)
one	21 (4.5%)
her	21 (4.5%)
everyone	21 (4.5%)
it	8 (1.7%)
Total	426

The predominant uses of the first-person pronoun in Dataset B reflect the fact that FAs with a pronoun are preferred in two-way dialogues. Examples in (45) are representative ones:

(45) (a) Who's a fast reader? Not me. (COCA 2018 TV)
(b) What made you change your mind? Not you. (COCA 2008 TV)
(c) All right, so who's babysitting our little princess? Not it. Hey, I had her all morning. (COCA 2018 TV)

As in (45c), the data include 8 tokens of *Not it,* which could be linked to a source sentence like *That's not it.* In this situation, it could mean that the situation described by the antecedent *wh*-question is irrelevant or not important.

The second variable analyzed in the research is grammatical function of the negated FAs. Within putative sentential sources, the FAs can play a variety of grammatical functions. As shown in table 3, the FAs in both datasets function as modifiers, subjects, objects, predicative complements or oblique complements.

Table 3. *Grammatical function of the FAs in Datasets A and B*

Grammatical function	Freq. in Dataset A	Freq. in Dataset B
Modifier	243 (72.5%)	1 (0.3%)
Subject	12 (3.6%)	279 (72.3%)
Object	39 (11.7%)	45 (11.7%)
Predicative complement	40 (11.9%)	33 (8.5%)
Oblique complement	1 (0.3%)	28 (7.3%)
Total	335	426

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In Dataset A, negated FAs mostly serve as modifiers. This high frequency in a sense echoes the finding that more than two-thirds of the remnants are AdvPs and PPs, which usually function as modifiers.

(46) (a) How did that meeting go? Not well. (COCA 2019 SPOK)
(b) So, are you still seeing patients too? Not for years. (COCA 1997 MOV)

The FA is used either as subject or object of a verb or a prepositional complement.

(47) (a) Who would ever suspect a kid? Not this guy. (COCA 2015 MOV)
(b) Did you see anyone? Not a soul. (COCA 2004 MOV)
(c) What am I trying to hold onto? Not my son. (COCA 1993 TV)

The negated FAs with an AP remnant can also function as predicative complement:

(48) (a) How'd it go? Not so good. (COCA 2010 TV)
(b) How do you find the defendant? Not guilty. (COCA 2009 TV)

In Dataset A, there is only one token used as an oblique complement, possibly because most PP remnants function as modifiers. The PP remnant *from me* in (49) is selected by the phrasal verb *find out* as an oblique complement, as in the following dialogue:

(49) A: Yeah. But he isn't gonna find out, is he?
B: Not from me. They could tear off my fingernails, I won't talk. (COCA 2010 WEB)

In Dataset B, the negated FAs with a pronoun remnant, as expected, behave differently in terms of their grammatical functions. As shown in table 3, the predominant grammatical function of the negated FAs with a pronoun remnant is subject:

(50) (a) Who looks stupid now? Not me. (COCA 2019 MOV)
(b) Which one of you did this? Not us. (COCA 2016 TV)

The pronoun remnant, as in these examples, is accusative when it functions as subject. Dataset B includes no tokens with a nominative pronoun as the remnant.

In Dataset B, the negated FAs with a pronoun remnant can also function as object, predicative and oblique complement, even though their frequencies are much lower than those for the subject:[7]

(51) (a) This is ruining your life? Not mine. (COCA 2001 TV)
(b) Is that from you? Not me. (COCA 2005 TV)

Another variable investigated in the research is overtness of the antecedent question. When the negated FA in question serves as a proper answer to the preceding antecedent question, it includes an overt correlate in the antecedent. The negated FA

[7] The negated FA 'not + pronoun' cannot be used as a modifier, but there is one token in Dataset B that functions as a modifier: *What story would you like to hear?* Not you (COCA 1992 TV). In the context, the negated FA is understood as 'I would like to hear the story not from you, but from Mommy.'

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Table 4. *Antecedent type of the negated FAs in Datasets A and B*

Antecedent	Freq. in Dataset A	Freq. in Dataset B
Overt	309 (92.2%)	342 (80.2%)
Covert	26 (7.8%)	84 (19.7%)
Total	335	426

with a covert correlate typically does not serve as a direct answer to the question. With this basic criterion, table 4 gives the frequencies for overt and covert antecedents.

As seen from table 4, the negated FAs in both datasets have predominantly an overt antecedent question (the correlate is underlined):

(52) (a) What can I control? Not outcomes. (COCA 2012 BLOG)
(b) Do you still have family there? Not immediate. (COCA 2004)
(53) (a) Are you expecting someone? Not me. (COCA 2019 MOV)
(b) Who wants my stupid face smiling on the cover? Not me. (COCA 2019 SPOK)

In these examples, the remnant pronoun has a matching correlate in the antecedent question. The FA here can serve as an appropriate answer to the preceding antecedent question.

In the meantime, examples like the following have no overt antecedent:

(54) (a) You want the truth? Not interested. (COCA 2017 TV)
(b) What's the dress code? Not a clue. (COCA 2019 TV)
(c) Where do we get those? Not my problem. (COCA 2006 TV)

The FAs here are not direct answers to the preceding question. Similar examples are found in Dataset B. For instance, examples in (55) do not have a correlate for the pronoun remnant:

(55) (a) What's that smell? Not me. (COCA 1990 MOV)
(b) Find your angle. Is that blood? Not mine. (COCA 2018 MOV)

The FA in (55a) means that I am not the source of that smell, or the smell is not from me. The antecedent question in (55b) has some information related to the FA, but with no syntactic or semantic identity. To the polar question of whether that is blood or not, the FA says 'The blood is not mine.' Such an example is marked to have a 'covert' antecedent even though the antecedent is partially overt.

The fourth variable I checked with the data is the type of negation: constituent or sentential negation. In determining the type of negation, the adopted tests include tag questions, *neither/either* tag and the appositive tag *not even* (Klima 1964). Determining the type of negation in FAs is often not straightforward, as it requires reference to the context in question. The negator in FAs combines with any constituent

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XP, which could support the constituent negation analysis. However, the negator, as given in (56b), cannot combine with an argument or adjunct as a sentential negation with a wide scope reading (Morgan 1989; Weir 2020). As in (56c), when the negation is contrastive, it could combine with an object:

(56) (a) Kim didn't eat an apple.
(b) *Kim ate not an apple.
(c) Kim ate not an apple but an orange.

The negator in FAs is typically interpreted as sentential negation, as seen from negated FAs with a subject pronoun (e.g. *Who did this? Not me*). When the negated FA can be interpreted as contrastive meaning, the negator is taken to be a constituent negation too (see also Cappelle 2021). Table 5 summarizes the frequencies for the types of negation.

Table 5. *Type of the negation in Datasets A and B*

Negation type	Freq. in Dataset A	Freq. in Dataset B
Constituent	23 (6.9%)	50 (11.7%)
Sentential	116 (34.6%)	344 (80.7%)
Sentential or Constituent	196 (58.5%)	32 (7.5%)
Total	335	426

As table 5 shows, both datasets include examples where the negator is ambiguous between sentential and constituent negation.

(57) (a) Does that sound crazy? Not to me. (COCA 2019 TV)
(b) What if there's a tornado? Not in winter. (COCA 1997 MOV)

In these examples, the negation is preferably sentential, but the context (assigning contrastive information to the remnant) allows us to interpret it as a constituent negation also. Unlike such ambiguous examples, examples like (58) with a contrastive meaning are better interpreted as constituent negation only:

(58) (a) What's the hardest part of it? Not knowing where they are. That's the worst thing. (COCA 2018 SPOK)
(b) Do you recognize them? Not him. But her. (COCA 2012 TV)

The negator *not* in (58a) is negating the nonfinite VP, and the one in (58b) is contrastive with *but*. There are also examples where only the sentential negation reading is possible:

(59) (a) Can we make LA? Not without gas. (COCA 1996 MOV)
(b) Did he help search? Not to my knowledge. (COCA 2007 SPOK)

The negator here is used as sentential, as seen from the fact that the natural readings of the FAs here are not those in (60), but those in (61) where the negator is sentential.

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(60) (a) Not without gas, we can make LA.
(b) Not to my knowledge, he helped search.
(61) (a) We cannot make LA without gas.
(b) To my knowledge, he didn't help search.

As we have seen, the attested uses of negated FAs are much more flexible than discussed so far in the literature. In particular, it seems to be clear that generating putative sentential sources for each negated FA is quite challenging if we only refer to syntactic or semantic identity between the antecedent question and the understood expressions. In what follows, we further discuss the implications of these attested data for the deletion-based sentential analyses.

4 Implications from the data: arguments for and against sentential analyses

As noted by Merchant (2003) and Weir (2020), the deletion-based sentential analyses could generate negated FAs in two different ways, the negator as constituent negation or the negator as sentential negation. Consider the following example from Weir (2020):

(62) A: What did John give to Mary?
B: Not flowers.

The constituent negation would have the following structure, depending on whether there is movement or not:

(63) (a) Move-cum-delete:
[[Not [flowers]] [~~John gave to Mary~~]]
(b) In-situ deletion:
~~John gave~~ [not [flowers]] ~~to Mary.~~

As noted by Weir (2020), in both move-cum-delete and in-situ approaches, the negator could also interpreted as a sentential operator, as represented in the following:

(64) (a) Move-and-delete:
[Not [flowers [[~~John gave to Mary~~]]]].
(b) In-situ deletion:
[Not [~~John gave~~ [flowers] ~~to Mary~~]].

Such sentential-based deletion analyses for negated FAs may get support from connectivity effects as they do for positive FAs. For instance, negated FAs, just like positive FAs, display a connectivity effect with respect to the prepositional value:

(65) (a) So where did it come from? Not from/*about God!
(b) What were you talking about? Not about/*from the reward.

The contrast between possible and impossible prepositions in the FAs here could be expected from their putative clausal sources. The putative sentential sources, constructed by referring to the antecedent clause, would be those in (66):

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(66) (a) It did not come from/*about God.
(b) I was not talking about/*from the reward.

Just like positive FAs, negated FAs also have connectivity effects with respect to binding. Examples in the following show us the connectivity effects with binding:

(67) (a) What are you$_i$ feeling right now? Not myself$_i$ at all. (COCA 2014 TV)
(b) How has your son$_i$ been lately? Not himself$_i$. (COCA 2023 TV)
(68) (a) Who did he$_i$ meet last night? Not him$_{*i}$.
(b) Where is she$_i$ sleeping? Not in Mary$_{*i}$'s room.

Each of the reflexives within the negative FA in (67) is bound by its antecedent in the clausal source, observing Condition A. The examples in (68) show us the observation of Binding Condition B and C with respect to the pronoun *him* and the R-expression *Mary*, respectively.

In spite of such connectivity effects, the attested data have shown that there are several phenomena that challenge the supposition of sentential sources for negated FAs (negator plus a remnant), as we have seen for positive FAs. First, the remnant's case marking displays an anti-connective effect even in negated FAs too. As we have seen earlier with corpus data, when the remnant is linked to the subject in the antecedent, the case value of the remnant needs to be accusative, not nominative:

(69) (a) Who needed that? Not her. (COCA 2006 FIC)
(b) Who does this money belong to? Not him. (COCA 2018 MOV)
(c) Are you now saying that she's asking for more money? Not her. (COCA 1994 TV)

The remnant pronoun in all these FAs is linked to the subject. The putative clausal source would thus be unacceptable. Our corpus data (Dataset A and Dataset B) include no negative FAs with a nominative pronoun.

A non-parallelism effect is also observed with a negative expression triggering SAI (Subject–Aux Inversion). As shown in the following attested data, negative expressions can serve as proper FAs (see Cappelle 2021 for similar points):

(70) (a) Can you do that in America? Not in a million years! (COCA 2007 FIC)
(b) Can you forgive Tom Ryan? Never in this life. (COCA 2008 TV)

The sentential sources must be inverted, as seen from the following contrast:

(71) (a) Not in a million years [can I do that in America].
(b) *Not in a million years [I can do that in America].
(72) (a) Never in this life [can I forgive Tom Ryan].
(b) *Never in this life [I can forgive Tom Ryan].

Considering the inversion properties of such negative expressions, the sentential approaches should ensure that the clausal source is inverted. However, this would raise several questions including what is to be deleted and what is fronted. The deleted

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expression of FAs is assumed to be a TP, as suggested by Merchant (2004), but the bracketed ones in (71a) and (72a) including an inverted auxiliary are not TPs but CPs.

Corpus data also yield anti-connectivity effects with respect to the preposition of the remnant in negated FAs. As discussed earlier, the remnant in the FAs matches its correlate in terms of the preposition. However, consider the following corpus examples:

(73) (a) Where will the dish be assembled? Not the kitchen. (COCA 2002 NEWS)
(b) Do you date the girls that work in those establishments too? Not the bookstore. (COCA 1999 MOV)

The putative clause sources of the fragments here would be something like the following:[8]

(74) (a) The dish will not be assembled *(in) the kitchen.
(b) I date the girls that work *(in) the bookstore.

The preposition of the FAs in (73a) mismatches that of the correlate. In (73b), the FA includes no preposition, but its putative clausal source needs to have the preposition *in*.

We have seen that island sensitivity effects of FAs are often taken as supporting arguments for move-and-delete sentential approaches. However, attested data also show us that negated FAs can violate island constraints:

(75) (a) When it all goes to hell, people go home. The place where they have to take <u>you</u> in? Not me. (CNPC, COCA 2012 FIC)
(b) Is that what <u>you</u> come up here for? Not me. (CNPC, COCA 2012 MOV)
(c) Are you allergic to <u>me</u> or something? Not you. (CSC, COCA 2014 MOV))
(d) Nobody else knows that he's here and <u>nobody's</u> gonna tell them, right? Not me. (CSC, COCA 2006 MOV)
(e) Do you still have <u>family</u> there? Not immediate. (Left branching, COCA 2004 FIC)

Since the attested FAs are typically from spoken registers, most of the antecedent questions are simple, involving no complex structures. However, as illustrated in (75), it is not difficult to observe examples where the correlate of the FAs is in an island environment.

Negated FAs with *not* in the final position also challenge the sentential approaches (Weir 2020):

(76) (a) Have you ever heard of that? Probably not. (COCA 2012 BLOG)
(b) Was all this effort necessary? Possibly not. (COCA 1997 ACAD)
(c) Doesn't he deserve to know? Absolutely not. (COCA 2017 TV)

Considering that the constituent negator of FAs occurs in the initial position, the negator here would not be constituent negation. Even if we take the negator *not* as sentential negation, it is questionable how to derive examples like (76a) from sentential sources, which is also pointed by Weir (2020):

[8] One may take the FAs in (73) as examples with the subject and the copula being deleted, not referring to the antecedent.

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(77) (a) Probably I have not heard of that.
(b) I probably have not heard of that.
(c) I have probably not heard of that.
(d) *Probably not I have heard of that.

For the negator in the final position, one might adopt an in-situ sentential approach with a clausal source, as illustrated in the following:

(78) Probably ~~I have~~ not ~~heard of it~~.

Even if this works, there would be another obstacle for the sentential approach when the FA is linked to the subject, which we have seen earlier with the pronoun remnant. Consider similar examples:

(79) (a) Who could do such a thing? Not Ella. (COCA 2010 FIC)
(b) Who's the number one auto company in the US today? Not GM. (COCA 2012 BLOG)

The FA here is linked to the subject correlate and its sentential source with the intact ordering of the negator would be unacceptable:

(80) (a) *Not Ella could do such a thing.
(b) *Not GM is the number one auto company.

A possible solution would be to assume that, as suggested by Merchant (2004), the negator in such a context is hosted in a left-peripheral NegP (or ΣP/PolP) above the Focus position and it is to this position that the remnant is moved:

(81) $[_{NegP}$ Not$_i$ $[_{FOC}$ Ella$_j$ ~~[___$_i$ could ___$_j$ do such a thing]~~]].

However, questions still remain as to how to ascertain that this ordering is only possible with ellipsis or how to deal with negated FAs with the negator functioning as constituent negation.

5 A discourse-based direct interpretation analysis

5.1 Direct interpretation of fragments

Unlike the deletion-based sentential approach, as noted earlier, the direct interpretation (DI) approach licenses the meanings of the unpronounced material with no underlying syntactic structures. The analysis introduces no syntactic structure at the ellipsis site. FAs are thus the sole daughter of an S-node, functioning as a non-sentential utterance (NSU). This direct projection is licensed by the following construction, adopted from Ginzburg & Sag (2000: 301), Kim & Nykiel (2020), Nykiel & Kim (2022) and Kim & Runner (2022):

(82) Head Fragment Construction (*hd-frag-cxt*):
Any maximal category can be projected into an NSU (non-sentential utterance) when it functions as a focal utterance.

This construction rule allows any constituent (XP) to function as an NSU as long as it represents a focus representing salient information. For instance, the FA *Coffee* to a *wh*-question like *What do you want?* would have the following simple syntax:

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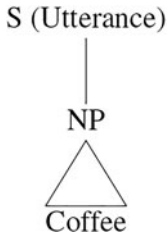
(83)



The FA *Coffee* functions as focal or salient information, providing an answer to the antecedent *wh*-question. As noted earlier, this simple syntax then is linked to the process of semantic resolution which involves two key tasks: identifying the source parallel to the elided parts and resolving the content of the elided target by referring to contextual information (Fernández *et al.* 2007).

As sketched, in the DI approach adopted in the present analysis, structured discourse and context thus play key roles in semantic resolution. Following Ginzburg & Sag (2000) and others, I take the dialogue context (CTXT) to include at least the information about question-under-discussion (QUD) and SAL-UTT (salient utterance), as represented in the feature-structure format:

(84)
$$\begin{bmatrix} \text{CTXT} & \begin{bmatrix} \text{MAX-QUD} \ldots \\ \text{SAL-UTT} \ldots \end{bmatrix} \end{bmatrix}$$

The MAX-QUD identifies the maximal QUD among a number of questions evoked in a given context. The SAL-UTT represents a salient or focal constituent of the utterance and serves as a potential parallel element. This attribute can also include not only semantic but also syntactic information such as case and categorial information. In addition, the present framework accepts a structured meaning approach in which the meaning of a question is a function that yields a proposition when applied to the meaning of the answer (Ginzburg & Sag 2000; Krifka 2001; Jacobson 2016).[9] The meaning of a *wh*-question can thus be represented in a simple manner as follows:

(85)
$$\begin{bmatrix} \text{FORM} & \langle \text{What do you want?} \rangle \\ \text{SYN} & \text{S} \\ \text{SEM} & \lambda_x[want(i,x)] \end{bmatrix}$$

In addition to its own syntax and semantics, as noted, a *wh*-question also evokes a QUD (question under discussion) but also introduces a SAL-UTT (salient utterance) in the given context. This can be represented as follows:

[9] Unlike the structured approach, the propositional set approach assumes that the meaning of questions denotes sets of propositions that are possible answers to the question (see Hamblin 1973; Karttunen 1977; Groenendijk & Stokhof 1984).

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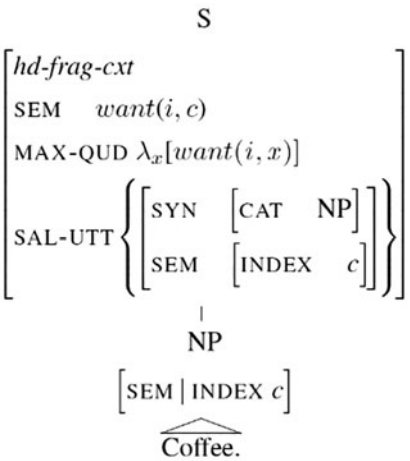
(86) $$\begin{bmatrix} \text{CTXT} \begin{bmatrix} \text{MAX-QUD } \lambda_x[want(i,x)] \\ \text{SAL-UTT} \begin{bmatrix} \text{SYN} \mid \text{CAT NP} \\ \text{SEM } x \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

The question *What do you want?* introduces a QUD questioning a value for the individual that the responder wants. The fragment *Coffee* then provides a value for this variable. This can be represented as in a tree-structure format:

(87)



The FA *Coffee* is projected into an S as a head-fragment construction. This is licensed because the fragment serves as a focal, salient expression.

This structured meaning approach would yield the following semantic resolution for the FA *Coffee*:

(88) (a) Meaning of the Q and QUD: λ_x [*want*(*i, x*)]
(b) Meaning of the fragment: *c*
(c) Question applied to the answer: λ_x [*want*(*i, x*)](*c*) = [*want*(*i, c*)]

This analysis would be able to account for the examples with no overt sentential source which question the validity of postulating sentential sources (Nykiel & Kim 2022). Consider the following example again:

(89) A: Why are you so nervous?
B: Coffee. (COCA 2007 MOV)

As noted, there could be no determined sentential source for such an example. The current approach, referring to the discourse structure, could offer a straightforward analysis. The *wh*-question would evoke a QUD asking what causes the hearer to be nervous, and the responder replies to this, by referring this QUD evoked from the context (Kim 2020):

(90) (a) Meaning of the Q and the evoked QUD: λ_x [*nervous*(*i, reason*(*x*))]
(b) Meaning of the fragment: *c*

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(c) QUD applied to the answer:
λ_x [*nervous*(*i, reason*(*x*))](*c*) = [*nervous*(*i, reason*(*c*))]

There is no need to construct a sentential source, thus avoiding syntactic identity issues with the antecedent.

5.2 Negated FAs as constituent negation

As we have observed, the negator can combine with a variety of XPs. When the XP remnant in negated FAs is contrastive, the negator seems to have a narrow scope, whose examples are repeated here:

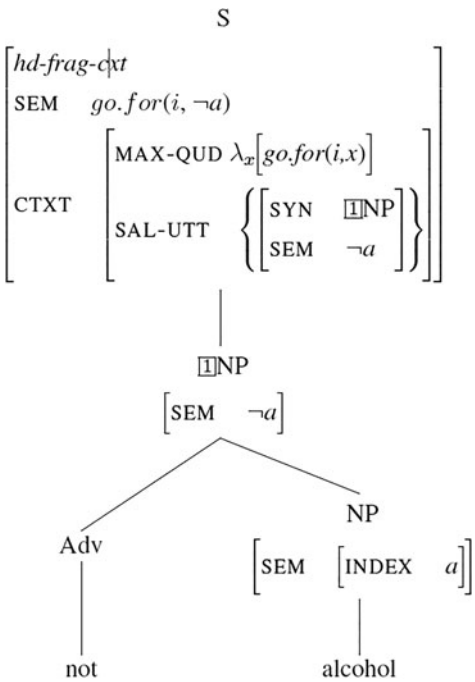
(91) (a) What would you go for? Not alcohol. (But drug). (COCA 2018 MOV)
(b) Do you recognize them? Not him. But her. (COCA 2012 TV)
(c) You were going to let those dogs chew on you? Not on me. My coat. (COCA 1998 TV)

The constituent negation analysis alone could obtain a proper meaning representation. Within the DI approach that directly generates negative FAs as non-sentential utterances (NSUs), we first can interpret the negator as a constituent negation here, assigning the following structures to the negated FAs in (91):

(92) (a) [$_S$ [$_{NP}$ Not [$_{NP}$ alcohol]]].
(b) [$_S$ [$_{PP}$ Not [$_{PP}$ on me]]].

As given here, the negator forms constituent negation with the remnant, and projects into an NSU, as illustrated by the following:

(93)



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This meaning resolution could be represented in terms of the structured meaning approach. As pointed out by a reviewer, the simplified meaning representation of *not alcohol* as $\neg a$ in (93) would be more properly represented as the remnant *alcohol* as a generalized quantifier so that the negator is defined over propositions (as sentential negation) or corresponds to something else (as constituent negation). This being so, the meaning resolution would be something like the following:

(94) (a) QUD: $\lambda_x[go.for(i, x)]$
(b) Meaning of the negated fragment: $\lambda P \neg \exists_x[P(x) \ \& \ alcohol(x)]$
(c) QUD and Question applied to the answer: $\neg \exists_x \ [go.for(i, x) \ \& \ alcohol(x)]$

The QUD evoked is what the responder would go for, in which the focus is the variable for *what*. The responder offers a possible value, which is not alcohol, but something else.

The discourse-based approach thus requires no process to reconstruct putative sentential sources for the negative FAs. The structured discourse allows us to locate the source in the context parallel to the target and compute from contextual information a property which, applied to the target, leads to a proper semantic resolution.

5.3 *Negated FAs as sentential negation: mismatch between form and meaning*

We have seen negated FAs that could be interpreted as constituent negation, which typically accompany a contrastive meaning. However, as we have seen from the attested data, in a majority of negated FAs, the negator is better interpreted as sentential negation, in particular, when there is no contrastive information:[10]

(95) (a) What does he eat? Not fairies. (COCA 2014 MOV)
(b) Does it still hurt? Not anymore. (COCA 2012 TV)
(c) Is there any sight more inspiring? Not for me. (COCA 2008 MAG)

It appears that the negated FAs here would yield clausal meanings like the following, given that there is no contrastive meaning assigned to them:

(96) (a) He does not eat fairies.
(b) It does not hurt anymore.
(c) There isn't any sight more inspiring for me.

As noted by Merchant (2003) and in the previous section with attested data, there are also instances where *not* is interpreted as sentential negation:

(97) A: What did Beth say she wanted to study?
B: Not French. (=Beth didn't say she wanted to study French.)

[10] Cappelle (2021) similarly supports interpreting the negator in these FAs as sentential negation together with a special pragmatic effect such as strong denial of the evoked proposition.

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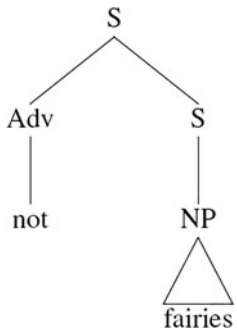
In this example, the negator in the FA could thus be either constituent or sentential negation. In dealing with negated FAs with sentential negation, within the DI, we could assume the following structure, as did Kim (2020):

(98)

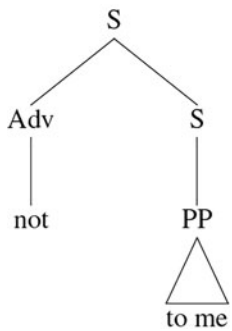


Several issues arise in accepting this kind of syntactic structure for negated FAs representing sentential negation. An immediate issue concerns a sprouting case in which the correlate in the antecedent clause is not overtly realized. Consider similar examples:

(99) (a) Did he happen to mention his name? Not to me.
(b) You were going to let those dogs chew on you? Not on me.

The negated FA needs to be a PP[*to*] selected by the lexical head *mention* and a PP[*on*] selected by *chew*. Kim's (2020) analysis would assign the following for the FA in (99a):

(100)



Note that the structure in (100) is not endocentric: the PP is not the syntactic head of the S, so the preposition value of the PP is not projected to the upper S. This means the functor negator *not* has no access to this syntactic information.

In addition, structures like (98) and (100) have difficulties in predicting the position of sentential adverbs. The structure in (100) implies that an (sentential) adverb can follow the

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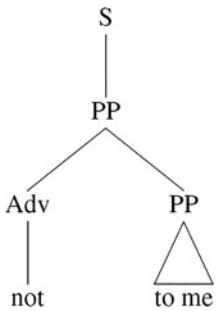
negator. The attested data show that it is natural to have an adverb in front of the negated FA, but no adverb can intervene between the negator and the remnant:[11]

(101) (a) Who knew I could do that? Certainly not me./*Not certainly me. (COCA 2011 FIC)
(b) Who said anything about commitment? Obviously not you./*Not obviously you. (COCA 1985 TV)
(c) What kind of security does your family have in place? Probably not enough./*Not probably enough. (COCA 2018 TV)

The syntactic structure suggested by Kim (2020) would allow these undesirable adverb-intervening examples,

Considering these and the prosodic unity of the negator with the following remnant, we find the structure in (102) where the negator and the remnant form a constituent more acceptable, even though the negator is interpreted as sentential negation:

(102)



As noted, under the present approach, the syntactic structure of negated FAs, unlike Kim (2020), does not differentiate constituent negation from sentential negation. In both, the negator syntactically combines with an XP (not a finite S), but could represent either constituent or sentential negation. There is thus an incongruence between form and meaning when negated FAs are interpreted as sentential negation, which has predominant uses as we have seen from the attested data (see Cappelle 2021 for a similar point).

Note that the sentential *not* can negate any constituent of a given sentence, depending on where the focus is placed (Nakao 2008):

(103) Kim didn't mention the book to me.
(a) It is not Kim that mention the book to me.
(b) It is not the book that Kim mentioned to me.
(c) It is not to me that Kim mentioned the book.

[11] The ungrammatical expressions are added by the author.

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As for negated FAs, the negator is also sentential negation, assigning a focus value to the remnant.[12] In the context of negated FAs, the negation syntactically combines with an XP bearing focus value, but can take a sentential scope. The ensuing question is then how to get a sentential reading of the negator when it combines with any XP in negated FAs.

It has been widely noted that negation *not* is ambiguous when interacting with a quantifier:

(104) (a) Everyone loves someone.
(b) Kim did not find many valuable books.
(c) All that glitters is not gold.

The negator here can take either a wider scope or narrower scope over the quantifier. In providing scope ambiguities between quantifiers including the negator, it has been assumed that quantifiers are raised to adjoin to any sentence level at LF (see Kiss & Pafel 2017 for a review) or stored and retrieved at sentence levels (see Ginzburg & Sag 2000 and De Swart & Sag 2002). In this article, I accept the mechanism of quantifier-storage, which matches the direct interpretation approach provided here. Adopting this idea of addressing scope ambiguities via quantifier storage, we could assume that the negator *not*, just like quantifiers, also starts out in storage and can be retrieved at different levels. Following Ginzburg & Sag (2000), we could implement this idea in terms of a semantic content structured as in the following:

(105) $\begin{bmatrix} \text{SEM} \begin{bmatrix} \text{QUANTS} \langle ... \rangle \\ \text{NUCLEUS} \begin{bmatrix} .... \end{bmatrix} \end{bmatrix} \end{bmatrix}$

The attribute QUANTS takes quantifiers as well as the negator as its value while NUCLEUS takes a non-quantified expression as its value. The value of the QUANTS depends on the retrieved (list) value from the stored quantifier or negator. Because the value of QUANTS is (ordered) lists, scope ambiguities are systematically handled.[13] For a sentence like (104a) with two quantifiers could have two different QUANTS values, as given in the following:[14]

[12] The *why*-question is also similar in this respect. Bromberger (1992: 160) points out that *why*-questions are focus-sensitive, assigning a focus value to any constituent in the clause. For instance, in *Why did Adam eat the apple?*, each of the constituents *Adam*, *eat* and *the apple* could get a focus. The answer to this *wh*-question could thus depend on which of these is focused.

[13] More specifically, the scope resolution is defined by the Scope Principle:

(i) In a headed phrase, the QUANTS value is the concatenation of the retrieved value with the QUANTS value of the semantic head.

For detailed discussion, see Ginzburg & Sag (2000: ch. 5).

[14] For ease of exposition, the quantifier value is simplified.

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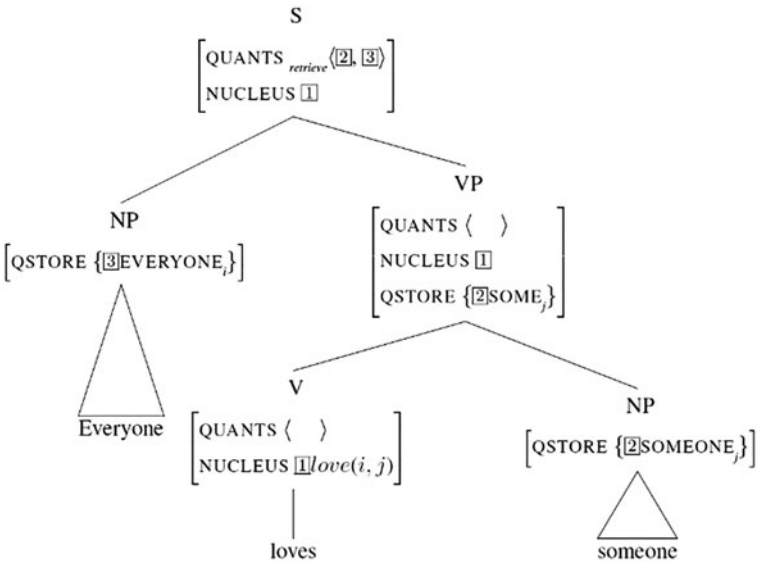
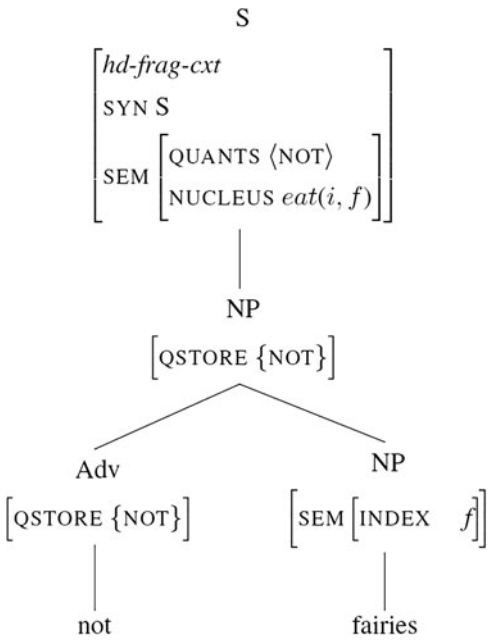
(106)



The quantifier information is stored as the value of QSTORE. The retrieve function for QUANTS allows us to retrieve quantifiers (QSTORE values) at different points in the tree. In this structure, the retrieval of the quantifier *someone* (2) precedes that of *everyone* (3), as seen from the QUANTS value. This yields wide scope for the existential quantifier. If the order is reversed, *everyone* will have wide scope over *someone*.

The negator behaves alike these quantifiers, and thus its quantification value can be retrieved at different levels. The negator in FAs can be retrieved either at an XP level (for constituent negation) or at the top S level (for sentential negation). This would then assign the following structure for (95a):

(107)



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The FA *not fairies* projects into an NSU as a head-fragment construction. As represented here, the negator stored in the q-storage (QSTORE) is retrieved not at the lower NP level (constituent negation) but at the S level (sentential negation), as seen from the QUANTS value. This allows the negator to be interpreted as sentential negation, as presented in the following:

(108) (a) MAX-QUD: $\lambda_x[eat(i, x)]$
(b) Meaning of the negated fragment with the retrieval 'not' at S:
$\neg[eat(i; f)]$

Now let us again consider the question *What did Beth say she wanted to study?* and its FA *Not French* in (97) from Merchant (2003). As noted earlier, the FA could be interpreted either as a constituent or as a sentential negation reading:

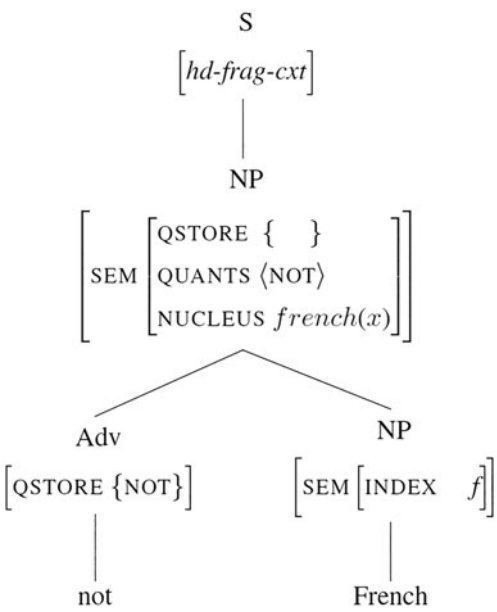
(109) (a) Beth said it is not French (but something else) that she wanted to study.
(b) Beth didn't say that she wanted to study French (she didn't say anything about French, and may not have said anything).

Just like the structure in (107), the stored negator of the FA could be retrieved at the top S level, yielding the meaning of sentential negation:

(110) (a) MAX-QUD: $\lambda_x[say(b, (want.to.study(b, x)))]$
(b) Meaning of the negated fragment with the retrieval 'not' at S:
$\neg[say(b, (want.to.study(b, f)))]$

In addition, the stored negator could be retrieved at the lower level, as represented in the following:

(111)



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As shown in the structure, the $_{\text{QSTORE}}$ value is not passing up to the S level, but retrieved earlier at the NP level. This yields a constituent negation, roughly represented as follows:

(112) $\neg\exists_x[say(b, (want.to.study(b, x) \& f(x)))]$

As such, the present analysis allowing the stored negator to be retrieved at an XP or at the S level could capture cases with scope ambiguities of the negator.

5.4 Negation in the final position

Now, consider FAs with the negator in the final position, which are not from the two datasets:

(113) (a) Does this apply to learning? Maybe not. (COCA 2012 BLOG)
(b) Politically, is it the right decision? Probably not. (COCA 1998 SPOK)

(114) (a) Are these two ways of saying the same thing? I think not. (COCA 2012 WEB)
(b) Is that a lie? I hope not. (COCA 2017 TV)

(115) (a) Can I have some time to think about it? Afraid not. (COCA 2016 MOV)
(b) Are you going to sign up with me? Most likely not. (COCA 2014 MOV)

One thing that we can observe from these examples is that the negator *not* here behaves like the propositional anaphor *so* in terms of its reference.[15]

(116) (a) Does the constitution force me to vote? I don't think so.
(b) I think he probably learned his lesson from all this. At least I hope so.
(c) If you have a problem with it, say so.

In these examples, *so* behaves like a sentential anaphor, as evidenced from their interpretation. Just like *so*, we could take the negator *not* as a propositional anaphoric expression selecting an antecedent provided by the context as its argument. Given this assumption, we could have the following structure for (113a):[16]

[15] Ginzburg & Sag (2000: 339) take expressions like *yes*, *no*, *sure*, *right*, *probably not*, *really* as propositional lexemes when they convey complete messages, as in *Did Kim visit Sandy? Yes/Probably not*. The present analysis, taking the negator alone in the sentential final position as a propositional lexeme, thus differs from Ginzburg & Sag's analysis.

[16] Following Ginzburg & Sag (2000), the present analysis treats polar questions (PQs) as propositional abstracts, assuming that PQs are 0-ary proposition abstracts in which the set of abstracted elements is the empty set ({ }). For instance, the PQ *Does Mimi meet Anna?* can be represented as follows:

(i) $\lambda\{\ \}[meet(m, a)]$

The empty set ({ }) here indicates that the PQ includes no parameter set, unlike a *wh*-question. The semantics tells us that the question is formed by λ-abstracting over the empty set to yield a function that maps the set onto the same proposition that Mimi met Anna. See Ginzburg & Sag (2000: 300) for details.

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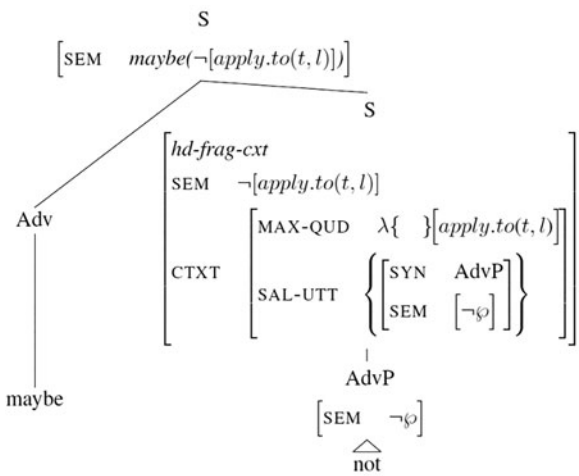
(117)



As given in the structure, *not* functions as a propositional anaphor ($\wp$) and can project into an NSU. Its meaning resolution process is similar to the anaphoric *so*. It refers to the clausal antecedent provided by the context. The negator takes the antecedent as its argument, yielding a proper propositional meaning.

Note that the present analysis does not allow the sentential adverb to follow the negator, forming an FA:

(118) (a) Maybe not/*Not maybe.
(b) Probably not/*Not probably.

The sentential adverbs *maybe* and *probably* can modify an utterance S projected from the FA *not* itself. However, the negator cannot take a sentence as its remnant to form a negated FA. Note that unlike sentential adverbs, VP adverbs have flexible distributions in negated FAs:

(119) (a) You remember our world? Not clearly. (COCA 2000 TV)
(b) Do you need to know HTML? Not absolutely. (COCA 2012 WEB)
(c) we don't know, do we? Not certainly. (COCA 2012 WEB)
(120) (a) Is college for everyone? Clearly not. (COCA 2013 SPOK)
(b) Should I have a gun? Absolutely not. (COCA 2013 TV)
(c) Will we agree on everything? Certainly not. (COCA 2016 NEWS)

The present analysis could assign the following structures for (119a) and (120a), respectively:

(121) (a) [$_{S}$ [$_{AdvP}$ Not [$_{AdvP}$ clearly]]].
(b) [$_{S}$ [$_{S}$ [$_{AdvP}$ Clearly [$_{AdvP}$ not]]]]

In (121a), the FA *not clearly* is projected into a head-fragment construct, while in (121b), it is the negator *not* that functions as a propositional anaphor, with which the evidential adverb *clearly* combines. This resulting expression then functions as a head-fragment

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construct. This negator would not be interpreted as constituent negation, since the negator functioning as constituent negation requires a syntactic argument (as suggested by Kim & Sag 2002).

5.5 *Some welcoming consequences*

The present analysis requires no postulation of clausal sources for negated FAs. Their semantic resolution refers to the evoked discourse structure, and the FAs provide a possible answer to the variable evoked from the discourse. This direction allows us to resolve the issues of anti-connectivity effects with respect to case features. For instance, consider the following again:

(122) (a) Who's a fast reader? Not me. (COCA 2018 TV)
(b) Who could do such a thing? Not Ella. (COCA 2010 FIC)

As noted, the putative sentential sources of such negated FAs would be ungrammatical. In the present system that refers to the discourse structure in question, the negated FAs just provide a possible value for the evoked variables.

Note that the structured discourse also can refer to syntactic information. In particular, the value of the attribute SAL-UTT includes syntactic as well as semantic information of a salient constituent. This allows the discourse-based analysis to address syntactic connectivity effects with either an overt or a covert correlate example (see Kim 2015, 2020; Nykiel & Kim 2022 also for a similar account for positive FAs). Consider examples with a covert correlate.

(123) (a) Has she mentioned anything? Not to me/*Not with me.
(b) Something you want to talk about? Not with you/*Not on you.

The correlate is implicitly provided by the argument structure of the predicate *mention* and *talk*, that is, the utterance of the questions would activate the following argument structures (see Culicover & Jackendoff 2005 for a similar point):

(124) (a) mention: ARG-ST <NP, NP, PP[*to*]>
(b) talk: ARG-ST <NP, PP[*about*], PP[*with*]>

To be precise, following the analysis of Ginzburg & Sag (2000), Kim (2015) and Nykiel & Kim (2022), we could take the unrealized oblique argument of *mention* as an instance of indefinite null instantiation (*ini*) (see also Ruppenhofer & Michaelis 2014):

(125) Lexical item for *mention*:

$$\begin{bmatrix} \text{FORM} & \langle \text{mention} \rangle \\ \text{ARG-ST} & \left\langle \text{NP}_i, \text{NP}_j, \left(\text{PP} \begin{bmatrix} \textit{ini} & \\ \text{PFORM} & \textit{to} \\ \text{INDEX} & x \end{bmatrix} \right) \right\rangle \\ \text{SEM} & \textit{mention}(i, j, x) \end{bmatrix}$$

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This unrealized indefinite argument then also evokes a relevant QUD asking a possible value for the argument. This variable serves as a value for the SAL-UTT:

(126)
$$\begin{bmatrix} \text{MAX-QUD} & \lambda_x[mention(i,j,x)] \\ \text{SAL-UTT} & \begin{bmatrix} \text{CAT} & \text{PP}\begin{bmatrix} ini & \\ \text{PFORM} & to \\ \text{INDEX} & x \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Since the salient constituent is thus a PP headed by *to*, the FA *Not to me* is a proper one, but the FA **Not with me* is not.

The present analysis also allows for the preposition of the FA not to match that of its correlate. Consider the following examples again:

(127) (a) Where will the dish be assembled? Not the kitchen.
(b) Do you date the girls that work in those establishments too? Not the bookstore.

The NP FAs here, as noted earlier, are linked to a PP adjunct in the antecedent clause. Neither syntactic nor semantic identity could account for this linkage. In the discourse-based system, the *wh*-question in (127a) evokes a QUD asking for a possible value for the variable 'x' in 'The dish will be assembled at x.'[17] The QUD that the question evokes is something like 'The dish will be assembled at x.' The FA *Not the kitchen* is offering a value for this variable: it says that its value cannot be the kitchen. The analysis suggested here does not refer to the syntactic information of the covert correlate. It simply asks a possible value for the salient variable evoked in the discourse. This could allow the FA with no preposition in question.

As noted earlier, the negated FQ can function not as a direct answer to the antecedent question, but as a denial to the question itself.

(128) (a) Do you like him? Not my type. (COCA 2010 MOV)
(b) You want the truth? Not interested. (COCA 2017 TV)
(c) Where do we get those? Not my problem. (COCA 2006 TV)

The example (128a) asks if the hearer likes him or not, but the responder refers to a sub-QUD like if he is the responder's type or not. The responder uses the FA as an answer to a QUD that he or she constructed from the context, not seeking any syntactic or semantic identity with the question. The present analysis, referring to the discourse structure, identifies a proper QUD evoked in the context. The negated FQ then serves as an answer to this.

[17] See Büring (2003) for the discussion of what other sub-QUD can be built from a given context.

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The present analysis suggests that the structured discourse plays a key role in resolving the propositional meaning of negated fragments. This direction could account for similar FAs with a negative determiner:

(129) (a) Why didn't you go to college? No money. (COCA 1997 MOV)
(b) Why won't we just go to the police? No police. (COCA 2012 MOV)
(c) How was your first day? No complaints. (COCA 2011 MOV)

The FAs here have no overt correlate in the antecedent question. The antecedent questions do not provide a direct way to the clausal sources. Their possible putative sentential sources can vary:

(130) (a) Because I had no money, I couldn't go to college.
(b) Because of no money, I couldn't go to college.
(c) The reason is that I had no money.

The question in (129a) makes a suggestion or asks a reason for not going to college. In the present system, there is no need to introduce a sentential source. All that is required to resolve the meaning of the FA is to refer to the structured discourse that tells us what is at issue in the given context. The responder uses the negated FA in accordance with a QUD evoked from the context. For instance, in (130a), the antecedent question could accompany a related QUD like 'What is the key factor that prevented you from going to college?' or 'What is the main reason for not going to college?'. The FA *No money* could well serve as a proper answer to the evoked QUD.

6 Conclusion

The intriguing feature of positive and negative FAs is that they are non-sentential with respect to form values, but they induce a propositional interpretation. This mismatch between form and semantic function has led to the development of two main approaches: deletion-based sentential approaches and direct interpretation non-sentential approaches.

The article first discussed the arguments for sentential approaches for positive FAs (fragment answers), focusing on connectivity effects and locality for movement. The literature has, however, observed many examples where the connectivity effects and locality condition for move-cum-delete operations broke down. The article then reported a corpus investigation of negated FAs. It analyzed two datasets (Dataset A and Dataset B) with variables such as syntactic category of the remnant, grammatical function, covertness of the antecedent question, type of negation and so forth. Many of the extracted data display connectivity effects as well as observing locality conditions. However, at the same time, some of the data show non-parallelism between the antecedent question and the putative clausal source of negated FAs, challenging sentential approaches.

Given a variety of naturally occurring negated FAs whose sentential sources we often struggle to construct, more support is given to the approaches that can refer to the available discourse structure. The DI (direct interpretation) approach presented here and couched in

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the framework of construction-based HPSG (Head-driven Phrase Structure Grammar) shows us that once we have a system that represents clear discourse structures with the information about salient utterances and question-under-discussion (QUD), we could have straightforward mapping relations from negated FAs to propositional meaning, even when there is no strong syntactic or semantic parallelism between the antecedent question and the understood material in the negated FAs.

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