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1 Introduction

Linguists working in the transformational generative grammar framework generally adopt a *silent structure* approach to fragmentary questions and answers, according to which fragments are derived by generating a clause-sized phrase marker S in the usual manner and then suppressing phonological realisation in all but one or more subconstituents of S (I will refer to this phonological suppression operation as *ellipsis*) (see Merchant 2019 and references in there). Fragments are the subsentential constituents that survive clausal ellipsis: they are the *remnants* of ellipsis.[1]

(1)

	surface form	*silent structure analysis*
A:	Someone laughed.	
B:	Really, whó?	Really, [$_S$ whó ~~laughed~~]?
B':	Yeah, Jóhn.	Yeah, [$_S$ Jóhn ~~laughed~~].

Like other forms of ellipsis, the clausal ellipsis site is an anaphor whose identity is retrieved from a designated utterance (or conjunction of utterances) in the preceding discourse (Hankamer and Sag 1976). This utterance is the *antecedent* for ellipsis. The conditions under which the ellipsis site's identity is successfully retrieved from the antecedent form the *identity condition* on clausal ellipsis. The popular current view in the transformational generative literature is that the identity condition is primarily semantic in nature (Merchant 2001, 2013, Chung 2013). Barros and Kotek (2019) group the semantic identity conditions offered in this literature into two groups, those that restrict antecedents of clausal ellipsis to questions or question-like semantic entities, and those that do not. They refer to these as *Q-equivalence* and *focus-based* approaches, respectively. Although Barros and Kotek do not make this distinction themselves, Q-equivalence approaches can be bifurcated further: there are those couched in the Inquisitive Semantics framework, which identify the antecedent as an *issue* (as technically defined within that framework) (AnderBois 2011, 2014), and those couched in the *Questions Under Discussion* (QUD) framework, which identify the antecedent as a question in the partly-ordered set of questions that comprises the QUD (Krifka 2006, Reich 2007, Barros 2014, Weir 2014, Kotek and Barros 2018, Griffiths 2019a).

Barros and Kotek present strong arguments to suggest that an issue-based Q-equivalence theory such as AnderBois' (2011, 2014) cannot be correct. They also demonstrate that one QUD-based Q-equivalence approach — namely, Barros (2014) — has shortcomings in its current form. From this, Barros and Kotek conclude that, even if a Q-equivalence approach can be developed that does not exhibit the same shortcomings that AnderBois' and Barros' theories do, this approach will require

[1] Ellipsis is represented by strikethrough. An acute accent adorns (one of) the vowel(s) of the syllable that carries the *sentence accent* (Gussenhoven 1992). Where relevant, deaccentuation is represented by italics and a smaller font size.

supplementary assumptions and technical machinery that are/is not required under a focus-based approach. Thus, a focus-based approach is favoured on conceptual grounds, as it is more parsimonious.

I contend that this conclusion is unwarranted. I argue that it arises from an unbalanced comparison, in which (i) the least feasible QUD-based approach is treated as the exemplar of QUD-based approaches more generally and (ii) data that supports QUD-based approaches and/or undermines Barros & Kotek's focus-based approach are neglected. I will show that, once a more balanced comparison is made, any QUD-based approach that is more fleshed-out than Barros' (2014) is superior to the focus-based approach.

To accomplish this, I first explicate the focus-based approach and then outline a QUD-based approach that is minimally different from it (section 2). I then compare these approaches in section 3 and draw conclusions from the resulting comparison in section 4.

Before beginning, I wish to fix some terminology. I henceforth refer to Barros and Kotek's focus-based approach as the *F-approach*. Recall that the identity of an ellipsis site is retrieved via an anaphoric link with an appropriate discourse antecedent. I use the term *identity domain* (ID) to refer to the phrase that establishes this anaphoric relation with the antecedent. For some researchers, the ID is simply the ellipsis site itself (Merchant 2001), whereas, for others, the ID can be either the ellipsis site itself or a phrase that contains the ellipsis site (Rooth 1992a, Takahashi and Fox 2005, Barros and Kotek 2019, Griffiths 2019b). As described in detail in section 2, both the F- and QUD-approach utilise the idea that, when confronted with an elliptic phrase for which there is no suitable explicitly pronounced antecedent expression in the proximate discourse, conversational participants can attempt to pragmatically accommodate an antecedent. This accommodation process is constrained: the content of the accommodated antecedent is inferred from an explicitly pronounced expression in the discourse. When discussing monologues or dialogues in which this accommodation process occurs, I refer to the utterance from which an implicit antecedent is inferred as the *pronounced relevant utterance* (PRU).

A final remark about this paper's scope: because Barros and Kotek limit their discussion to English clausal and VP ellipsis, I do the same. What impact the conclusions reached here have on our understanding of the identity conditions on other forms of ellipsis in English (e.g. stripping, (pseudo-)gapping, nominal ellipsis) or on clausal/VP ellipsis in other languages remains an open question.

2 Establishing a basis for balanced comparison: The F- and Q-approaches to clausal ellipsis

In this section, I explicate Barros and Kotek's F-approach and then outline a QUD-based approach that is minimally different from it (henceforth, the *Q-approach*). This section therefore functions to provide a basis for the comparison I present in section 3.

2.1 *Barros and Kotek's (2019) F-approach to clausal ellipsis*

Barros and Kotek's identity condition, which aims to describe the licensing conditions for all forms of ellipsis and also for deaccentuation, is presented in a slightly rephrased form in (2).

(2) **Licensing condition for reduction redundancy** (rephrased from Barros and Kotek 2019:4)
Reduction (ellipsis or deaccentuation) is licensed in XP_E if XP_E has a salient antecedent, XP_A, and $\cup[\![XP_E]\!]^f = \cup[\![XP_A]\!]^f$.

This condition states that, for any phrase XP_E that contains ellipsis or deaccentuation, ellipsis or deaccentuation is judged as acceptable in XP_E only if the Focus Semantic value (Rooth 1985, 1992b) of XP_E (i.e. $\cup[\![XP_E]\!]^f$) and the Focus Semantic value of its antecedent phrase (i.e. $\cup[\![XP_A]\!]^f$) are equivalent.[2] Assuming that XP_E is the entire clause (including the remnant) (Barros and Kotek 2019:5), this condition applies straightforwardly in examples such as (3), in which the remnant of ellipsis has an explicit correlate in the antecedent clause, and in examples such as (5), in which the remnant's correlate is an implicit yet obligatory event modifier, as (4) and (6) respectively show.

(3) **Explicit correlate case**
A: Sally fired <u>someone</u>. (where the underlined phrase is the correlate)
B: Yes, ~~she fired~~ Pólly.

(4) a. For (3A): $\cup[\![\text{Sally fired someone}]\!]^f = \lambda w.\ \exists x$ (Sally fired x in w)
For (3B): $\cup[\![\text{Sally fired Polly}_F]\!]^f = \lambda w.\ \exists x$ (Sally fired x in w)
b. $\cup[\![(3A)]\!]^f \leftrightarrow \cup[\![(3B)]\!]^f$
c. ellipsis is licensed in (3B)

(5) **Implicit but obligatorily correlate case**
A: Sally fired someone.
B: Yes, ~~she fired someone~~ at mídnight.

(6) a. For (5A): $\cup[\![\text{Sally fired someone (at some time)}]\!]^f = \lambda w.\ \exists x \exists t$ (Sally fired x at time t)
For (5B): $\cup[\![\text{Sally fired someone [at midnight]}_F]\!]^f = \lambda w.\ \exists x \exists t$ (Sally fired x at time t)
b. $\cup[\![(5A)]\!]^f \leftrightarrow \cup[\![(5B)]\!]^f$
c. ellipsis is licensed in (5B)

For cases such as (7), the condition in (2) is satisfied only if $\cup[\![(7A)]\!]^f$ does not pick out possible worlds in which Sally left alone. Barros and Kotek propose that ellipsis is judged as acceptable in (7B) because,

[2] When discussing clausal ellipsis in particular, Barros & Kotek (2019: sections 2–4) characterise the equivalence that must obtain between CPA and CPE in terms of mutual entailment (↔) between the union of the possible worlds picked out by $[\![CP_A]\!]^f$ and the union of the possible worlds picked out by $[\![CP_E]\!]^f$. For consistency, I will do the same.

upon encountering the elliptic clause, conversational participants accommodate (in Lewis's 1979 sense) the presupposition that all relevant Sally-leaving worlds are Sally-leaving-with-someone worlds. Once this presupposition is accommodated, $\cup[\![(7A)]\!]^f$ mutually entails $\cup[\![(7B)]\!]^f$ and therefore (2) is satisfied.

(7) **Leaving events do not always involve a companion**
A. Sally left.
B. Yeah, ~~she left~~ with Súe.

Recall that (2) is offered as a condition on licensing both ellipsis **and** deaccentuation. To account for the fact that deaccentuation is permitted in utterances such as (8B), which clearly fails to satisfy (2) when (8A) is taken to be its antecedent, Barros and Kotek again appeal to accommodation. They propose that, when confronted with such cases, conversational participants accommodate a suitable implicit antecedent for (8B). For (8B), the accommodated antecedent would presumably be *someone's been looking guilty lately*, which picks out the same set of possible worlds as $\cup[\![(8B)]\!]^f$.

(8) A: Who ate the cake?
B: Well, Bíll*'s been looking guilty lately*.
B': * Well, Bíll~~'s been looking guilty lately~~. (adapted from Weir 2014:68)

Notice that an implicit antecedent that is radically different from (8A) can be accommodated for (8B) because (8B) contains pronounced lexical material that informs the hearer about what the content of the accommodated antecedent will be (Fox 2000). In the case of an elliptic clause, however, all non-focused material is rendered silent and therefore this material cannot convey any information about the content of the antecedent that needs to be accommodated. Therefore, the type of accommodation that is involved in licensing deaccentuation in (8B) is unavailable for licensing ellipsis. This explains why the elliptic version of (8B) in (8B') is unacceptable.

Finally, notice that (2) requires antecedent phrases to be *salient*. Barros and Kotek neither (in)formally define the term *salient* in their paper nor refer to a definition that they endorse from the literature: they have simply carried this phrase over from Merchant's (2001) *e*-GIVENness condition, which itself carries the phrase over from Schwarzschild's (1999) definition of GIVENness. Problematically, Schwarzschild provides no definition of saliency, either. Instead, he merely mentions some factors that influence saliency, which are recency, frequency of mention, grammatical role, and position in the sentence (Schwarzschild 1999:148). In the absence of a concrete definition of saliency in (2), let us assume for (later) argument's sake that an antecedent counts as salient if it is explicitly pronounced and is either very recent in the prior discourse or has received frequent mention in it.

2.2 *A Q-approach to clausal ellipsis*

In this subsection, I sketch a Q-approach to clausal ellipsis. As mentioned already, the outline I present will be as similar to Barros and Kotek's F-approach as possible, so that the two can be easily compared.

QUD theories are founded on the idea that conversation is structured around the raising and addressing of questions. Every QUD theory offers a characterisation of what it means for an utterance to be a congruent answer to a question, and therefore it is natural that a QUD-based identity condition on clausal ellipsis should be derived from a more general condition on Question-Answer congruence (henceforth, *Q-A congruence*). The particular definition of Q-A congruence I employ here, which is presented in (9), is adapted from Weir (2014), who himself refines earlier proposals from Krifka (2006) and Reich (2007).[3] I adopt this definition for ease of comparison: as the reader can see, it bears a striking resemblance to Barros and Kotek's identity condition from (2).

The definition in (9) states that an answer α is congruent to a wh-question Q only if the union of the possible worlds picked out by Q (i.e. ∪Q) and the union of the set of possible worlds picked out by the Focus Semantic value of α (i.e. $\cup[\![\alpha]\!]^f$) are mutually entailing.

(9) **Question-Answer (Q-A) congruence**
An answer α is congruent to a question Q iff $\cup[\![\alpha]\!]^f \leftrightarrow \cup Q$, where Q is in the QUD.[4]

The predictive power of this condition is demonstrated in (10). From the two assertions in (10), only the first counts as congruent to the question in (10A), according to the definition in (9). As such, only the first assertion is predicted to be judged as a felicitous response to (10A). This is borne out, as (10B') is judged to exhibit the wrong information structure for this context.

(10) A: Who did Sally give the keys to?
B: She gave the keys to Pólly.
B': # She gave the kéys to Polly.

(11) a. For (10A):
$\cup[\![\text{Who did Sally give the keys to?}]\!] = \lambda w.\ \exists x$ (Sally gave the keys to x in w)

b. For (10B):
i. $\cup[\![\text{Sally gave the keys to Polly}_F]\!]^f = \lambda w.\ \exists x$ (Sally gave the keys to x in w)
ii. $\cup[\![(10B)]\!]^f \leftrightarrow \cup(10A)$
iii. (10B) is a congruent answer to (10A)

[3] This definition is also similar in spirit to Roberts' (2012:31) definition of Q-A congruence. The commonality shared by each of these definitions is that "congruence doesn't require that the answer be among the corresponding set of alternatives […] but only that the answer and question evoke the same set of alternatives" (Roberts 2012:32).

[4] I follow Roberts (2012) in assuming that, at a given point in conversational time t, the QUD is the push-down store of partly ordered unanswered questions that were/are raised, either explicitly or implicitly, at t or t_{-n}.

c. For (10B'):
   i. $\cup[\![$Sally gave the keys$_F$ to Polly$]\!]^f$ = $\lambda w.\ \exists x$ (Sally gave x to Polly in w)
   ii. $\cup[\![$(10B')$]\!]^f$ does not mutually entail $\cup$(10A)
   iii. (10B') is an incongruent answer to (10A)

When one compares (10B) and (10B'), one sees that these assertions differ only in information structure. These examples therefore show that having the correct information structure — at least with regards to the division focus and background — is a necessary condition for being a congruent answer. One can therefore argue, as many researchers have (e.g. Krifka 2006, Roberts 2012; see Riester 2017 for additional references), that the information structure of an assertoric response to an explicit wh-question arises as a reflex of satisfying a Q-A congruence condition such as (9).

QUD theories commonly extend this reasoning to all assertoric utterances, *ceteris paribus* (van Kuppevelt 1995, Roberts 2012, Onea 2016, Riester 2017). They propose that all assertions are answers to questions, and if a speaker's narrow-focus assertion α appears not to answer an explicitly uttered question in the recent discourse, then the other conversational participants pragmatically accommodate (again, in Lewis's 1979 sense) an implicit wh-question to which α is a congruent answer (Roberts 2012).[5] To provide an example, accommodation is required in (12) because (12B) is not a congruent answer to (12A) yet this assertion displays a narrow-focus information structure. Upon encountering (12B), hearers accommodate an implicit wh-question to which (12B) is congruent, namely (13). The dialogue in (12) is understood as coherent because this implicit question delineates the conversational strategy on which speaker B has embarked to answer speaker's A original question (roughly put, speaker B thinks that determining who has been looking guilty lately will help to determine who ate the cake).

(12) A: Who ate the cake?
B: Well, Bíll's *been looking guilty lately*. (repeated from (8))

(13) Who has been looking guilty lately?

As mentioned above, many researchers view the identity condition on clausal ellipsis as deriving from Q-A congruence, claiming that an elliptic clause is licensed only if it is a congruent answer to an explicit or implicit question (Krifka 2006, Reich 2007, Barros 2014, Weir 2014).

[5] It is worth noting here that this strategy of introducing implicit questions, which is referred to as the *backward-looking* strategy in Ginzburg (2012:238), is not considered as exceptional or unorthodox in the literature: no QUD theory prohibits it, and many scholars view it as the standard means of raising implicit questions (Larsson 2002: section 4.4, Onea 2016, Riester 2019). About this strategy, Roberts (2012:8) says:

> These [backward-looking, J.G] cases involve accommodation in Lewis's (1979) sense and are quite normal in discourse: if it is clear that an interlocutor presupposes a question or assertion φ which is not yet commonly agreed upon but the others have no objection, then they behave as if the common ground contained φ all along.

As already discussed in relation to Barros and Kotek's approach to deaccentuation (see the previous subsection), the implicit question in (13) can be accommodated because (12B) contains deaccented material that informs the hearer about what the background of the accommodated implicit question will be (Fox 2000). However, in the case of an assertion to which clausal ellipsis applies, all nonfocused material is rendered silent and therefore this material cannot convey any information about the background of the implicit question that the assertion answers. Because the background of the implicit question must be retrievable from the recent discourse (why else would a cooperative conversational participant utter an elliptic clause?), hearers infer from this that the denotation of the implicit question's background is retrievable from a pronounced utterance in the recent discourse to which the implicit question can be understood as a sensible response. Put differently, the denotation of an implicit question that functions as the antecedent to an elliptic clause is ordinarily retrieved from a pronounced utterance in the recent discourse (henceforth, the *pronounced relevant utterance* (*PRU*)). In the case of (14), for example, the hearer will use the PRU in (14A) to infer the discourse structure in (15). Alternatively, in cases where accommodation is required, the denotation of such a question is retrieved from two separate sources: information about the implicit question's wh-phrase is retrieved from the remnant of ellipsis, while information about the implicit question's background is retrieved from a PRU (see (16)). Both ellipsis cases therefore differ from deaccentuation case in (12) insofar as, in the latter, the implicit Q that (12B) answers is retrieved from only one source, which is (12B) itself.

(14) A: Sally promoted someone.
B: Yeah, Olívia.

(15) **Discourse structure for (14), as inferred by the hearer**

A:	Sally promoted someone.	
B_1:	Yeah,	← `B accepts A's proposal to update the context`
Implicit Q:	*Who did she promote?*	
B_2:	~~she promoted~~ Olívia.	← `B addresses an implicit Q that is raised by accepting A's proposal`

(16) A: Sally left.
B: Yeah, with Súe.

(17) **Discourse structure for (16), as inferred by the hearer**

A:	Sally left.	
B_1:	Yeah,	← `B accepts A's proposal to update the context; B presupposes that all S-leaving worlds are S-leaving-with-someone worlds`
Implicit Q:	*With whom did she leave?*	
B_2:	~~she left~~ with Súe.	← `B addresses an implicit Q that B believes is raised by accepting A's proposal`

If the content of the implicit Q that serves as the antecedent to ellipsis is itself retrieved from a PRU, what relationship must obtain between the implicit Q and this PRU? The simplest and most consistent assumption to uphold — and one that is compatible with Barros and Kotek's (2019) theory — is that **all** retrieval is constrained by (9), including the retrieval of information about the content of an implicit question from a pronounced utterance in the discourse. In other words, an implicit question that serves as the antecedent to ellipsis must satisfy the condition that, if it were explicitly uttered (and if it followed its licensor), it would be an acceptable elliptic question. For example, the implicit Q in (17) would make for an acceptable elliptic question, as (18) shows.

(18) A: Sally left.
B: With whom ~~did she leave~~?[6]
A: ~~She left~~ with Súe.

If, in cases such as (17), ellipsis is licensed because $\cup[\![(17B_2)]\!]^f \leftrightarrow \cup(17Q)$ and retrieval of the implicit Q is constrained such that $\cup(17Q) \leftrightarrow \cup[\![(17A)]\!]^f$, then it follows logically that clausal ellipsis is licensed if $\cup[\![(17A)]\!]^f \leftrightarrow \cup[\![(17B_2)]\!]^f$. In other words, it transpires that the information-structural import of implicit questions can be entirely ignored for determining if clausal ellipsis semantically licensed. Upon doing this one realises that, at least with respect to information structure, Barros and Kotek's F-approach and the Q-approach being considered here converge on the same position, as both state that clausal ellipsis is licensed in CP_E only if $\cup[\![CP_E]\!]^f$ mutually entails $\cup[\![CP_A]\!]^f$, where CP_A is a PRU. Also, both approaches appeal to pragmatic accommodation to explain why clausal ellipsis is judged as acceptable in elliptic clauses where, *prima facie*, the identity condition is not satisfied (see (7) and (16)) and why deaccentuation is more easily licensed than clausal ellipsis (see (8) and (12)). This does not mean that the two approaches are equivalent, however. They still differ on two important points. These points are (i) what the ultimate source for the licensing conditions on clausal ellipsis is, and (ii) whether the licensing relationship between an elliptic clause and a pronounced non-erotetic utterance in the recent discourse is direct or is mediated via an implicit question. The Q-approach maintains that

[6] Note that the Q-A congruence condition in (9) applies as a licensing condition on clausal ellipsis in both assertions (to form fragment answers) and wh-questions (to form sluices). Clausal ellipsis is licensed in a wh-question W whenever W corresponds in meaning to the topmost Q in the QUD (Ginzburg & Sag 2000, Barros 2014, Weir 2014, Kotek & Barros 2018, Griffiths 2019a).

licensing clausal ellipsis involves satisfying the Q-A congruence condition, which is a general condition on structuring discourse, whereas the F-approach maintains that licensing clausal ellipsis involves satisfying a reduction redundancy condition that is fundamental and therefore arises from no deeper source. And because it maintains that clausal ellipsis is closely tied to Q-A congruence, the Q-approach upholds the idea that clausal ellipsis must be licensed by a question, even if this question contributes nothing new from an information-structural perspective, as is the case with implicit questions. Because the F-approach does not tie ellipsis licensing to answering questions, it is not committed to the notion that the antecedent for ellipsis must be a question.

3 A balanced comparison of the F- and Q-approaches

Within the QUD framework, a distinction can be made between *primary* implicit questions (PIQs) and *secondary* implicit questions (SIQs) (Onea 2016:16). PIQs are those implicit questions that are automatically 'compositionally triggered' from assertions containing indefinite expressions or disjunctions (AnderBois 2011, 2014; Onea 2016), whereas SIQs are those implicit questions that are not compositionally triggered and are instead pragmatically accommodated when needed. The example in (14) shows ellipsis being licensed from a PIQ, while the example in (16) shows ellipsis being licensed from a SIQ.

As mentioned in section 1, Barros and Kotek (2019) uphold Barros (2014) as their exemplar Q-approach to clausal ellipsis. Barros (2014) employs a heuristic for deriving PIQs from assertions containing indefinite expressions but does not consider the possibility that the antecedent for ellipsis can be a SIQ. Although Barros (2014: ch.7) does allow for the accommodation of some SIQs, he views such SIQs as triggering updates to a recently raised PIQ rather than as new implicit questions in their own right. Because their exemplar does not consider the full import of SIQs, Barros and Kotek adopt the position that all Q-approaches are, by nature, committed to the notion that only explicit questions and PIQs can be antecedents for clausal ellipsis. As mentioned in section 1, I contend that Barros and Kotek commit a strawman fallacy by adopting this position. Seeing as SIQs are integral part of Roberts' (2012: section 2.1) QUD-based explanation of narrow-focus phenomena in assertions, no Q-approach based on Roberts' QUD theory is by default committed to the notion that only explicit questions and PIQs can be antecedents for clausal ellipsis. Therefore, to conform to Barros and Kotek's characterisation, a Q-approach must explicitly ban SIQs from being possible antecedents for ellipsis. To my knowledge, neither Barros (2014) nor any other QUD-based approach to clausal ellipsis, such as Reich (2007), Weir (2014), or Griffiths (2019a), does this. The reality is simply that none of these approaches explicitly utilises the idea that SIQs can serve as antecedents. Thus, the Q-approach that Barros and Kotek attack can justifiably be considered a strawman. Barros and Kotek (2019) defend their strawman by claiming that no extant Q-approach is easily extended to meet the challenges they pose (p. 28). At least in the case of SIQs, this is untrue: a straightforward conversion of their own theory into its QUD-based equivalent yields a Q-approach that permits — or, more accurately, *requires* — explicit questions, PIQs, **and** SIQs to serve as antecedents for clausal ellipsis, as I already demonstrated in section 2.2. Consequently, a balanced comparison of the F- and Q-approaches should involve comparing Barros and Kotek's theory (from section 2.1) with the Q-approach

outlined in section 2.2. The remainder of this section is dedicated to this comparison. In section 3.1, I rehearse and dismiss Barros and Kotek's three strawman arguments. In section 3.2 and 3.3, I identify the areas in which the F- and Q-approach make different predictions and demonstrate that the Q-approach makes correct predictions whereas the F-approach makes incorrect ones. In section 3.4, I show that the F-approach fails to extend beyond clausal ellipsis, contrary to Barros and Kotek's claims. In section 3.5, I point out that one of the arguments that is presented by Barros and Kotek as undermining the Q-approach in reality favours neither approach and is therefore irrelevant.

3.1 *Barros and Kotek's strawman arguments*

3.1.1 *Argument 1: Cross-speaker sprouting*

Because A's utterance in (19) does not trigger a PIQ, the meaning of the acceptable elliptic clause in (19B) cannot be retrieved from one. Barros and Kotek argue that this data is problematic for Q-approaches. However, it is only problematic for their strawman, which stipulates that the meaning of an elliptic clause can only be recovered from an explicit Q or a PIQ. For any Q-approach that permits clausal ellipsis to be licensed by a SIQ — such as the Q-approach outlined in section 2.2 — such data are unproblematic. One can simply follow Barros and Kotek's (2019:22-23) own line of reasoning about how ellipsis is licensed in such cases: upon encountering the sprouting-type elliptic wh-clause, the hearer accommodates an implicit antecedent. For advocates of the Q-approach, this antecedent is the SIQ *when did Sally leave?*.[7]

(19) A: Sally left.
B: Whén ~~did Sally leave~~? (Barros and Kotek 2019:22)

3.1.2. *Argument 2: sluicing with wh-exceptives*

Consider (20), in which the acceptable elliptic wh-clause displays an exceptive wh-phrase (i.e. *who else*). Barros and Kotek (2019:21) offer the same strawman argument here, arguing that: (i) Q-approaches stipulate that clausal ellipsis is licensed only from explicit Qs and PIQs, (ii) the initial clause in (20) does not raise a PIQ, and therefore (iii) ellipsis should not be licensed, contrary to observation. I offer the same response as before: such data are unproblematic for any Q-approach that permits clausal ellipsis to be licensed by a SIQ. Upon encountering the sluiced wh-phrase in (20), the hearer accommodates the SIQ *who else left?*, where *who else* is contextually restricted to exclude *Jack*.

(20) Jack left, but I don't know who élse ~~left~~.

[7] An anonymous reviewer suggests that, if one adopts Barros and Kotek's (2019:5) position that events are always accompanied by implicit yet obligatory modifiers encoding the spatiotemporal location of an event (see (5) and (6)), then it seems plausible — at least on first pass — to postulate that that assertions such as (19A) **do** necessarily trigger an unordered set of PIQs, contrary to Barros & Kotek's claim. Roughly, this set would be {*when did Sally leave?*, *from where did Sally leave?*, …} for (19A). I leave assessing the feasibility of this idea as a task for future research.

3.1.3 *Argument 3: Antecedent sharing*

Barros and Kotek (2019:24) analyse the elliptic clauses in (21) as being licensed by the same antecedent, namely *Sally met someone*. Thus, they view (21) as exemplifying *antecedent sharing*.

(21) [$_A$ Sally met someone], but I don't know whó ~~she met~~, or whén ~~she met them~~.

They claim that such configurations evade adequate explanation under a Q-approach. This claim rests on their strawman characterisation of Q-approaches, according to which the meaning of an elliptic clause cannot be retrieved from a SIQ. Configurations such as (21) are unproblematic for any Q-approach that permits SIQs to function as antecedents, however. According to such an approach, (21) does not instantiate an antecedent sharing configuration. Instead, the first sluice is licensed by the PIQ that is compositionally triggered from A (namely, *who did Sally meet?*) whereas the second sluice is licensed by an accommodated SIQ (namely, *when did Sally met them?*), which is accommodated from the first elliptic clause.

3.2 *Accessibility/saliency/durability of the antecedent*

I demonstrated in section 2.2 that the F-approach and Q-approach show a high degree of convergence, differing only in that the F-approach permits any salient clause-sized phrase to serve as the antecedent for clausal ellipsis whereas the Q-approach restricts antecedents for ellipsis to questions in the QUD. Because membership in the QUD is predicated on fulfilling certain criteria, the Q-approach therefore predicts that questions that fail to fulfil these criteria are not members of the QUD and therefore are unavailable as antecedents for ellipsis. By contrast, the F-approach places no such restrictions on antecedents. Provided that an antecedent is *salient* (i.e. explicitly pronounced and recent and/or topical in the discourse, see section 2.1), it should license ellipsis. In this subsection, I demonstrate that the Q-approach makes correct predictions about the accessibility/saliency of antecedents, whereas the F-approach does not.

3.2.1 *No antecedents embedded inside explicit wh-questions*

The Q-approach predicts that an embedded clause ε inside an explicit wh-question cannot serve as the antecedent for clausal ellipsis. This prediction arises because ε is not the topmost Q in the QUD (and therefore cannot serve as the antecedent); rather, the entire wh-question is. As Weir (2014:53) has already shown, this prediction is borne out: the fragment can only be interpreted as answering the entire wh-question, as (22) shows.

(22) A: Who did Mary say [$_\varepsilon$ *x* has the key to the liquor cabinet]?
B: Fránk.

Possible interpretation: Mary said that Frank has the key to the liquor cabinet.
Impossible interpretation: Frank has the key to the liquor cabinet, regardless of what Mary says.

By contrast, the F-approach incorrectly predicts that ε in (22) can be the antecedent and therefore that the impossible interpretation of the fragment in (22) is obtainable. The F-approach makes this incorrect prediction because $\cup[\![(\varepsilon)]\!]^f$ mutually entails $\cup[\![(22B)]\!]^f$ and ε is salient. Therefore, ellipsis should be licensed with ε as the antecedent.

3.2.2 *Questions that receive a negative/dismissive response before the elliptic clause is encountered*

In the QUD-framework, a question Q occupies the QUD at a given point in conversational-time *t* only if Q remains unanswered, and is deemed answerable, at *t* (Roberts 2012:15-16). Under the Q-approach to ellipsis, this yields the prediction that, upon encountering an elliptic clause at t_{+n}, the hearer cannot retrieve the meaning of the elliptic clause from a question that is answered – and therefore removed from the QUD – at *t*. This prediction is borne out, as dialogues in (23) and (24) show. In each case, A's question receives a negative/dismissive response that removes A's question from the QUD and therefore renders it inaccessible as an antecedent for the elliptic clause in B's second assertion.

(23) A: Where did she gó? (broad-focus wh-question)
a. B: I don't know. But I think *(*she went*) with Tím.
b. B: [Shrugs shoulders]. I only know whén *(*she went*).

(24) A: What will she síng? (broad-focus wh-question)
B: Well whatever it is, *(*she'll sing it*) twíce.

The same problem arises in (25). Here, speaker A's assertion raises the PIQ *what is she going to sing?*, which receives a dismissive response and is similarly removed from the QUD, therefore preventing the PIQ from serving an antecedent for ellipsis.

(25) A: She is going to síng something. (broad-focus assertion)
a. B: Well whatever it is, *(*she'll sing it*) twíce, I bet.
b. B: Well whatever it is, whén *(*will she sing it*)?

Fragmentary responses are licensed if they are contained in the utterance that conveys the initial dismissive response to a question (see (26a)) but are not licensed if they are contained in an assertion that follows this initial responsive utterance (see (26b)). This demonstrates the importance of conversational-time: ellipsis is licensed in (26a) because A's question is not yet dismissed when the elliptic clause

is encountered (indeed, the elliptic clause **is** the answer), whereas ellipsis is not licensed in (26b) because A's question has already been dismissed and therefore cannot occupy the QUD.

(26) A: Did she watch Góodfellas last night?
a. B: No, (*she watched*) Casíno.
b. B: Who put that crazy idea in your head? ??(*She watched*) Casíno.

At least according to the naïve characterisation of saliency presented in section 2.1, each of A's questions in (23) to (26) is salient, as these questions and their responses remain the topic of conversation throughout. As a result, the F-approach views each of A's questions as a salient antecedent and therefore incorrectly predicts that clausal ellipsis is licensed in (23) to (26).

Before moving on, a brief remark about answerhood is required. I adopt the position that, at the point in conversational time *t* at which a congruent answer α to a question Q is provided, α is accompanied by the presupposition that every conversational participant understands that α is an answer to Q and accepts α as an answer to Q. Q is therefore treated as an 'answered question', and consequently remains excluded from the QUD, if this presupposition is maintained. However, if this presupposition is cancelled at some point after *t* — either because not everyone accepts α as an answer (27), or because not everyone understands that α answers Q, or because not everyone believes that everyone understands that α answers Q (28) — then Q may reclaim its position in the QUD.

(27) A: Who is happy?
B: Jóhn is happy. ← `Presup1: everyone understands that B answers A and accepts B as an answer to A`
C: I disagree. ← `C rejects B as an answer to A; Presup1 is cancelled.`

(28) A: Who is happy?
B_1: Jóhn is happy. ← `Presup1: everyone understands that` B_1 `answers A and accepts` B_1 `as an answer to A`
B_2: This means that we know who is happy. ← `B indicates that she believes that not everyone understands that` B_1 `answers A; Presup1 is cancelled.`

Now consider the monologue in (29). Barros and Kotek argue that the Q-approach incorrectly predicts that ellipsis is unacceptable in A_3 because no implicit wh-question Q can be raised from A_2, as Q is already answered by A_1.

(29) A_1: Jack left at 5 PM, so we know both
A_2: thát *someone left at 5 PM*, and
A_3: whó (*left at 5PM*). (adapted from Barros and Kotek 2019:13)

I contend that this argument is unsound because it fails to consider the possibility that presuppositions about answered questions are cancellable. In my opinion, the sequence in (29) is coherent only in a context in which the speaker believes — correctly or not — that her conversational participant might not realise that A_2 and A_3 are already answered by A_1. (An example scenario would be one in which an experienced police detective ensures that her dim-witted rookie partner understands which questions a given fact answers, see (30)). Thus, by uttering A_2 and A_3 in (29), the speaker is expressing her belief that not all participants view A_1 as answered, which therefore permits the implicit questions triggered from A_2 (namely, *did someone leave at 5 PM?*, which is triggered by the focus-related stress on the complementizer *that*, and *who left at 5 PM?*) to occupy the QUD and therefore to serve as antecedents for clausal ellipsis.

(30) *Context:* the experienced detective returns to the police car after talking to the hotel porter.
Rookie: So what did she say, Chief?
Detective: She said that Jack left at 5 PM.
Rookie: [*looks blankly at the detective*]
Detective: This is valuable information. We now know thát *someone left at 5 PM*, and whó.

3.2.3 *Discourse (in)durability*

Provided that it occupies the topmost (or 'maximal') position in the QUD at the point in conversational-time that an elliptic phrase is encountered, an explicit question can function as the antecedent for ellipsis from a position that is reasonably far back in the discourse (Ginzburg 2012). This is demonstrated in (31), in which speaker A's original question is the antecedent for the elliptic clause in speaker B's final utterance.

(31) A_1: Who is coming to the barbecue? (adapted from Ginzburg 2012: 69)
B_1: The barbecue on Sunday?
A_2: The 29th, yes.
B_2: Sunday is the 28th.
A_3: Oh right, yes, the 28th.
B_3: The one Sam's organising?
A_4: Yes.
B_4: Will it be on even if it snows?
A_5: Sam hasn't said anything.
B_5: Right. Anyway, I'd guess Sue and Pát (*are coming to the barbeque*) for sure, maybe Álex (*is coming to the barbeque*), too.

By contrast, implicit questions have a shorter shelf-life, remaining easily accessible in the discourse for only one conversational turn (Larsson 2002). Under the Q-approach, this yields the prediction that

ellipsis is difficult to license long-distance from those assertions that raise PIQs (i.e. assertions containing indefinite expressions or disjunction) or from those assertions from which a SIQ must be accommodated. As (32) and (33) show, this prediction is borne out.

(32) A_1: I heard that some of your colleagues are coming to the barbeque.
…
[*same intervening exchange as in (31)*]
…
B_5: Right. Anyway, I'd guess Sue and Pát ??(*are coming to the barbeque*) for sure, maybe Álex ??(*is coming to the barbeque*) too.

(33) A_1: I heard that Harry is coming to the barbeque.
…
[*same intervening exchange as in (31)*]
…
B_5: Right. Anyway, yes, ??(*Harry's coming*) with his dáughter.

The degraded nature of the elliptic clause in (34b) can also be attributed to the short shelf-life of implicit questions. In this case, the SIQ that must be accommodated upon encountering the elliptic clause (namely, *what did she watch last night?*) is difficult to accommodate, as the assertion from which it must be accommodated (namely, A's assertion) is too far back in the discourse. Conversely, the SIQ that must be accommodated in (34a) can be easily accommodated, as A's utterance only one conversational turn away, relative to the elliptic clause.

(34) A: She watched Góodfellas last night.
a. B: No, (*she watched*) Casíno.
b. B: You're talking nonsense again. ??(*She watched*) Casíno.

Because it assumes that any clause-sized phrase can potentially serve as an antecedent, and because its naïve characterisation of saliency does not distinguish between questions and assertions with regards their discourse durability (i.e. how 'long' they can remain accessible for anaphoric relations such as ellipsis licensing), the F-approach incorrectly predicts that, if ellipsis can be licensed long-distance by a question, then it can be licensed at the same distance by an assertion.

3.2.4 *PRUs from which PIQs are not triggered or from which SIQs cannot be accommodated*

By embedding the question ε in ($35A_2$) under *I don't care*, speaker A is informing her interlocutors that ε should not become a topic for discussion and therefore that ε does not trigger a PIQ and is inaccessible as a source from which to accommodate SIQs. Under the Q-approach, this leads to the prediction that ε cannot serve as the antecedent for ellipsis. This prediction is partly borne out: the elliptic

responses in (35a-b) are indeed degraded when compared to their non-elliptic counterparts, but they are not fully unacceptable. I submit that degradation as opposed to unacceptability is expected in such cases, as speaker's A request that ε should not become the topic of conversation can always be ignored. But because this is not the default, cooperative strategy, doing this incurs a processing cost that translates to a degraded acceptability judgement for the elliptic utterance.[8]

(35) [*Context:* John's infidelity is the topic of conversation]
A$_1$: I don't care what he does anymore.
A$_2$: For instance, I don't care [$_ε$ who he kissed last níght]. (broad-focus assertion)
a. B: Well, ??(*he kissed*) Ríchard.
b. B: But d'you care whére ?(*he kissed them*)?

Whatever the ultimate explanation for the degradation observed, the Q-approach at least correctly predicts that there should be some difference in acceptability judgements between the elliptic clauses and their non-elliptic counterparts in (35a-b). By contrast, the F-approach predicts that no difference should obtain: ε is salient and should therefore function perfectly well as an antecedent for ellipsis.

Barros and Kotek present two purported counterexamples to the claim that antecedents/ PRUs that refuse to be conversational topics cannot serve as licensors of ellipsis. The first is (36), in which ε$_2$ in (36A) allegedly functions as the antecedent despite being embedded in under an unconditional predicate.

(36) A: Sally left. Do you know [$_{ε1}$ how lóng ago she left]? I don't care about [$_{ε2}$ who she left wíth].
B: No, sorry, I only know who ~~she left~~ wíth. (adapted from Barros and Kotek 2019:23)

I contend that this example is not a valid counterexample because ε$_2$ (36A) is not the antecedent. Notice that ε$_1$ in (36A) can be used as PRU for accommodating a SIQ. This is demonstrated in (37), in which the SIQ from which the elliptic clause is retrieved (namely, *who did Sally leave with?*) is accommodated from ε. I suggest that the identity of the elliptic clause in (36) is retrieved in precisely the same way.[9]

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[8] The example in (35b) is fully acceptable if sentence stress is borne by the wh-phrase. When this occurs (as in (i)), the elliptic clause is interpreted as contrasting with its antecedent. As will be demonstrated in detail in section 3.4, contrastivity plays an important role in licensing VP ellipsis. The reparative effect of contrast in (i) raises the possibility that sluicing can, at least in some circumstances, be licensed under contrastivity, just as VP ellipsis is.

(i) A: I don't care whó he kissed last night.
B: But d'you you care whére?

[9] An anonymous reviewer asks why the embedded clause (ε) in the antecendent of (37) can invoke a PIQ, whereas the ε in (22) cannot. The answer is that ε in (22) forms part of a larger wh-question. Any ε that forms part of a larger wh-question cannot invoke a Q. For instance, when ε from the antecedent of (37) forms part of a larger wh-question, it cannot function as a PRU, as it cannot invoke a Q:

(i) A: Who asked how long ago Sally léft? B: # 30 minutes ago.

(37) I don't know [$_{\varepsilon}$ how lóng ago Sally left], or who ~~she left~~ wíth.

The second supposed counterexample is the configuration exemplified by (38a-b), in which the hearer is instructed to refrain from adding the PIQ raised by the initial clause to the QUD. Barros and Kotek claim that the Q-approach makes an incorrect prediction about such cases: if the PIQ raised by the initial clause is not contained in the QUD, then ellipsis should be unacceptable, as there is no suitable antecedent available in the QUD to license it.

(38) a. There's going to be another faculty meeting, but no one cares what abóut.
b. Someone needs to make sure the plants get watered daily, it doesn't matter {whó / whén}.
(adapted from Barros and Kotek 2019:25)

This counterexample is unsound because it does not take into consideration **when** the unconditional predicate is introduced. Recall that, in section 3.2.2, I demonstrated that the impact of answering or dismissing a question Q is not registered on the discourse until the discourse unit that answers/dismisses Q is complete, and that a consequence of this is that Q can still function as the antecedent for ellipsis if an elliptic clause forms part of the discourse unit that answers/dismisses Q (for concrete examples, see (26)). I argue that the sentences in (38) conform to the same pattern. Because the elliptic clause is contained in the discourse unit that instructs the hearer to refrain from adding the PIQ to the QUD, this instruction is only heeded after the discourse unit is complete, i.e. after ellipsis is encountered and its meaning is retrieved.[10]

3.2.5 *Summary of section 3.2*

I demonstrated in this subsection that the Q-approach makes four correct predictions about the accessibility constraints on antecedents for clausal ellipsis, whereas the F-approach makes incorrect predictions about all four cases.

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[10] The example in (i) is similar to those in (38) but with an added complication: it contains the free choice item *anyone*. Barros and Kotek posit that, despite being an indefinite expression (Giannakidou 2001, Menéndez-Benito 2005), *anyone* does not automatically trigger the generation of a PIQ. Regardless of whether this is true, nothing prevents the initial clause in (i) from functioning as the PRU from which a SIQ is accommodated.

(i) Jack would date ányone, it doesn't matter whó (*it is*)! (adapted from Barros and Kotek 2019:25)

While I disagree with Barros and Kotek that examples such as (i) undermine the Q-approach, I cannot deny that licensing clausal ellipsis from assertions containing free choice items appears (on a first pass) more restricted than with assertions containing standard existential indefinites, as a comparison of (ii) and (iii) shows. Whether this first impression is correct, and why a difference obtains if so, must remain an open question for future research.

(ii) A: John will kiss ányone.
a. B: No, he's actually rather discerning about whó *(*he kisses*).
b. B: No, he's puts careful thought into whó *(*he kisses*).

(iii) a. John wants to márry someone, and he's rather discerning about whó (*he wants to marry*).
b. John wants to márry someone, and he's put careful thought into whó (*he wants to marry*).

The primary reason for the F-approach's failure is its naïve characterisation of antecedent saliency. An advocate of the F-approach might contend that, once a more sophisticated conception of saliency is devised and adopted, the F-approach will capture the data presented in this subsection as effectively as the Q-approach currently does. While this may indeed transpire, what will the content of this conception of saliency be? At the very least, this notion of saliency must distinguish between (i) the discursive behaviour of assertions and questions, assigning a privileged status to the latter, and (ii) answered and unanswered questions. This emphasis on the discursive import of questions is likely yield a theory of discourse saliency that is extremely similar to — or even a mere notational variant of — the QUD-based theory, thus raising the possibility that the resulting F-approach would merely be a Q-approach in disguise.

In this subsection, I also rebutted Barros and Kotek's claim that clausal ellipsis can be licensed in contexts in which no implicit question can be raised. I argued that, in each datapoint Barros and Kotek adduce, an implicit question can indeed be raised. Because my arguments relied on an enriched notion discourse structure, an advocate of the F-approach might complain that the Q-approach tends towards unfalsifiability on this issue, as a context can always be postulated in which an implicit question is raised or is accommodable. Although it is indeed true that, as a pragmatic theory of ellipsis licensing, the Q-approach predicts that implicit questions are raiseable in most complex discourse situations (as a cooperative hearer will rearrange and/or recontextualise the discourse in order to retrieve the identity of an elliptic clause), it does not suppose that an implicit question is always raiseable. In simple contexts in which an implicit question is uncontestably unraiseable, ellipsis is not licensed, as demonstrated throughout this subsection. Thus, any accusation of unfalsifiability is unwarranted.

3.3 *Generating alternatives in the antecedent*

Another major difference between the F- and Q-approaches revolves around the technical issue of generating alternatives. When the identity conditions of the F- and Q-approach are compared (see (39) and (40), rephrased from (2) and (9) respectively), one observes that the F-approach is committed to using the Focus Semantic value of the antecedent to calculate identity, whereas the Q-approach is not. I will now show that this commitment to Focus Semantic values yields problems for the F-approach.

(39) **Identity condition on clausal ellipsis according to the F-approach** (based on (2))
Clausal ellipsis is licensed in CP_E only if CP_E has a salient antecedent CP_A, and $\cup[\![CP_E]\!]^f \leftrightarrow \cup[\![CP_A]\!]^f$.

(40) **Identity condition on clausal ellipsis according to the Q-approach** (based on (9))
Clausal ellipsis is licensed in CP_E only if $\cup[\![CP_E]\!]^f \leftrightarrow \cup Q$, where Q is in the QUD.

Consider the dialogues in (41) and (42). In each case, the A_2 utterance contains two alternative-introducing items, an indefinite expression (*who* and *someone*, respectively) and an F-marked item (*John* and

Sue, respectively). According to the Q-approach, the Focus Semantic values of the F-marked items in each case play no role in licensing ellipsis. This is because the identity of an elliptic clause is ordinarily retrieved from the ordinary semantic value its antecedent question. Thus, the identity of (41B) is retrieved from the ordinary semantic value of the explicit question in (41A_2), whereas the identity of (42B) is retrieved from the ordinary semantic value of the implicit question raised by (42A_2). The Q-approach correctly predicts that ellipsis is licensed in (41) and (42) because the identity condition in (40) is satisfied in each case, as (43) shows.

(41) A_1: What Bill ate is an important question to ask. But let me instead ask this:
A_2: what did Jóhn eat?
B: ~~John ate~~ cáke.

(42) A_1: Sally hired someone yesterday.
A_2: Súe hired someone, too.
Implicit Q: *who did Sue hire?*
B: Yeah, ~~Sue hired~~ Jóhn.

(43) **Calculating identity under the Q-approach**

a. For (41):
i. $\cup[\![\text{what did John}_F \text{ eat}]\!]^o = \lambda w.\ \exists x$ (John ate x in w)
ii. $\cup[\![\text{John ate cake}_F]\!]^f = \lambda w.\ \exists x$ (John ate x in w)
iii. $\cup[\![\text{what did John}_F \text{ eat}]\!]^o \leftrightarrow \cup[\![\text{John ate cake}_F]\!]^f$; therefore, ellipsis is licensed

b. For (42):
i. $\cup[\![\text{who did Sue hire}]\!]^o = \lambda w.\ \exists x$ (Sue hired x in w)
ii. $\cup[\![\text{Sue hired John}_F]\!]^f = \lambda w.\ \exists x$ (Sue hired x in w)
iii. $\cup[\![\text{who did Sue hire}]\!]^o \leftrightarrow \cup[\![\text{Sue hired John}_F]\!]^f$; therefore, ellipsis is licensed

Because it maintains that the identity of an elliptic clause is always retrieved from the Focus Semantic value of its antecedent, the F-approach incorrectly predicts that ellipsis should not be licensed in (41) and (42). This is because the union of the set of possible worlds picked out by the Focus Semantic value of the elliptic clause does not entail the union of the set of possible worlds picked out by the Focus Semantic value of the antecedent, and therefore the identity condition in (39) is not satisfied. To give a concrete example, the union of the set of possible worlds in which John ate something (i.e. the Focus Semantic value of the elliptic clause in (41)) does not entail the (iterated) union of the set of sets of possible worlds in which someone ate someone (i.e. the Focus Semantic value of the antecedent question in (41)), and therefore the elliptic clause is incorrectly predicted to be unacceptable.

(44) **Calculating identity under the F-approach**

a. For (41):

i. $\cup[\![\text{what did John}_F \text{ eat}]\!]^f = \lambda w.\ \exists x \exists y\ (x \text{ ate } y \text{ in } w)$[11]

ii. $\cup[\![\text{John ate cake}_F]\!]^f = \lambda w.\ \exists x\ (\text{John ate } x \text{ in } w)$

iii. $\cup[\![\text{John ate cake}_F]\!]^f$ does not entail $\cup[\![\text{what did John}_F \text{ eat}]\!]^f$; therefore, ellipsis is not licensed

b. For (42):

i. $\cup[\![\text{Sue}_F \text{ hired someone}]\!]^f = \lambda w.\ \exists x \exists y\ (x \text{ hired } y \text{ in } w)$

ii. $\cup[\![\text{Sue hired John}_F]\!]^f = \lambda w.\ \exists x\ (\text{Sue hired } x \text{ in } w)$

iii. $\cup[\![\text{Sue hired John}_F]\!]^f$ does not entail $\cup[\![\text{Sue}_F \text{ hired someone}]\!]^f$; therefore, ellipsis is not licensed

To account for the fact that ellipsis is acceptable in (41) and (42), an advocate of the F-approach must amend the Reduction Redundancy condition so that it ignores the Focus Semantic import of F-marked items in antecedents that contain wide-scoping indefinite expressions. It seems highly unlikely to me that such an amendment can be made in a non-stipulative way.

I must clarify here that the Q-approach does not **forbid** the Focus Semantic value of an antecedent question from being used to satisfy the identity condition: when this value must be used, it is. This is the case for licensing so-called *contrast sluices*, for instance (45).

(45) a. I know [$_A$ which dóctor John thanked] but not [$_E$ which núrse ~~he thanked~~].

b. i. $\cup[\![\text{which doctor}_F \text{ did John thank}]\!]^f$

= $\cup\{\{$J thanked Dr. Brown in *w*, J thanked Dr. Smith in *w*, J thanked Dr. Rodrigues in *w*, …$\}$, {J thanked Nurse Jones in *w*, J thanked Nurse Singh, J thanked Nurse Weiss in *w*, …$\}$ …$\}$

= $\lambda w.\ \exists x$ (John thanked x in w), where $x \in$ health workers

ii. $\cup[\![\text{which nurse}_F \text{ did John thank}]\!]^f$

= $\cup\{\{$J thanked Dr. Brown in *w*, J thanked Dr. Smith in *w*, J thanked Dr. Rodrigues in *w*, …$\}$, {J thanked Nurse Jones in *w*, J thanked Nurse Singh, J thanked Nurse Weiss in *w*, …$\}$ … $\}$

= $\lambda w.\ \exists x$ (John thanked x in w), where $x \in$ health workers

[11] More accurately, the formula in (44ai) requires the iterated application of the union operation $\cup$ (as do the formula presented in (45b)). The first application of $\cup$ creates a set of sets of propositions (e.g., {{*John ate cake*, *John ate rice*, *John ate pasta*, …}, {*Lucy ate cake*, *Lucy ate rice*, *Lucy ate pasta*, …}, …}) and the second application creates a set of propositions (e.g., {*John ate cake*, *John ate rice*, *John ate pasta*, …, *Lucy ate cake*, *Lucy ate rice*, *Lucy ate pasta*, …}). Throughout this subsection, I assume that the iterated application of $\cup$ for the purposes of calculating ellipsis licensing is permitted.

3.4 *Extensibility*

The final major difference between the F- and Q-approaches concerns their extensibility. Until now, my comparison of the F- and Q-approaches has been based on how accurately each captures the distribution of English clausal ellipsis. However, the F-approach also claims to accurately describe the licensing conditions on VP ellipsis and deaccenting (recall (2)), whereas the Q-approach makes no such claim. In this subsection, I demonstrate that the F-approach makes incorrect predictions about English VP ellipsis. Although doing this does not provide direct support for the Q-approach, it does rob the F-approach of any claims to superiority due to its alleged extensibility.

Like the *e*-GIVENness condition (Merchant 2001) and the Parallelism condition (Takahashi and Fox 2005) that inspired it, Barros and Kotek's identity condition allows elliptic phrases to function as *identity domains* (IDs). In a prototypical VP ellipsis configuration such as (46), for instance, $\cup[\![\mathrm{VP_E}]\!]^f \leftrightarrow \cup[\![\mathrm{VP_A}]\!]^f$, and therefore the elliptic VP appears to license itself (47) (Barros and Kotek 2019:36).

(46) John will [$_{\mathrm{A}}$ leave] — and Bíll will [$_{\mathrm{E}}$ ~~leave~~], too.

(47) a. John$_1$ will [$_{\mathit{v}\mathrm{P}}$ t_1 [$_{\mathrm{A}}$ leave]] – and Bíll$_2$ will [$_{\mathit{v}\mathrm{P}}$ t_2 [$_{\mathrm{E}}$ ~~leave~~]], too.

b. i. $\cup[\![\mathrm{A}]\!]^f = \cup\{\lambda y.\ y \text{ leave}\} = \lambda y.\ y \text{ leave}$

ii. $\cup[\![\mathrm{E}]\!]^f = \cup\{\lambda x.\ x \text{ leave}\} = \lambda x.\ x \text{ leave}$

iii. $\cup[\![\mathrm{A}]\!]^f \leftrightarrow \cup[\![\mathrm{E}]\!]^f$; therefore, ellipsis is licensed

Problematically for the F-approach and its predecessors, the idea that elliptic VPs can license themselves yields incorrect predictions. For example, the F-approach makes incorrect predictions about tautological utterances such as those in (48) (Schuyler 2001, Stockwell 2018, Griffiths 2019b). Although they are trivial, such sentences are acceptable. By contrast, their VP ellipsis counterparts in (49) are unacceptable. The F-approach incorrectly predicts that the identity of the elliptic VP can be retrieved in such configurations, as $\cup[\![\mathrm{XP_E}]\!]^f \leftrightarrow \cup[\![\mathrm{XP_A}]\!]^f$ in each case (I show this explicitly in (50) only for the example in (49d), as the other cases involve antecedent-contained deletion or relativisation and are therefore more complicated, see Griffiths 2019b for the details).

(48) a. Mary$_j$ híred every employee she$_j$ híred.
(an evasive answer to *how many employees did Mary hire?*)

b. John$_j$ hás as many smartphones as he$_j$ hás.
(an evasive answer to *how many smartphones does John have?*)

c. John$_j$ eáts what he$_j$ eáts.
(an evasive answer to *what does John eat?*)

d. If John$_j$'s wróng, then he$_j$'s wróng.
(an evasive answer to *what if John's wrong?*)

(49) a. * Mary$_j$ híred every employee she$_j$ did.
b. * John$_j$ hás as many smartphones as he$_j$ does.
c. * John$_j$ eáts what he$_j$ does.
d. * If John$_j$ is wróng, then he$_j$ is.

(50) **Applying the F-approach to (49d)**
a. For the elliptic VP: $\cup[\![\lambda x.\ x \text{ wrong}]\!]^f = \cup\{\lambda x.\ x \text{ wrong}\} = \lambda x.\ x \text{ wrong}$
For the antecedent VP: $\cup[\![\lambda y.\ y \text{ wrong}]\!]^f = \cup\{\lambda y.\ y \text{ wrong}\} = \lambda y.\ y \text{ wrong}$
b. $\cup[\![(\text{VP}_A)]\!]^f \leftrightarrow \cup[\![(\text{VP}_E)]\!]^f$; therefore, ellipsis is licensed

The F-approach also incorrectly predicts that VP ellipsis is licensed in the configuration exemplified in (51), in which a wh-phrase has been extracted from the elliptic VP (these are known as *rebinding* configurations; Takahashi and Fox 2005, Griffiths 2019b) and no F-marked item is present between the stressed wh-word *who* and the elliptic VP.[12]

(51) * Sue hired someone, but I don't know whó she did [$_{VP}$ ~~hire~~ t_1].

The F-approach also makes incorrect predictions about self-conjoined sentences that express iteration (Stockwell 2018:598; see (52) and (53)). In these examples, repeated VPs cannot be elided, despite satisfying the F-approach's licensing condition.

(52) a. They talked and they talked and they talked.
b. * They talked and they did ~~talk~~ and they did ~~talk~~.

(53) a. They talked and talked and talked.
b. * They talked and did ~~talk~~ and did ~~talk~~.

---

[12] Such utterances are typically viewed as belonging to the *MaxElide* dataset. This name comes from Merchant (2008) (first circulated in 2001), who proposed that (51) (which is repeated in (ic) below) is unacceptable because it violates a *sui generis* constraint on ellipsis called MaxElide, which prohibits an elliptic phrase that contains an A'-trace from being contained in a larger elidable phrase (in this case, an elidable TP).

(i) Sue hired someone, but I don't know…
a. whó [$_{TP}$ she [$_{VP}$ hired t_1]].
b. whó [$_{TP}$ ~~she~~ [$_{VP}$ ~~hired~~ t_1]].
c. * whó [$_{TP}$ she did [$_{VP}$ ~~hired~~ t_1]].

(ii) **MaxElide** (Merchant 2008:141)
Let XP be an elided constituent containing an A'-trace. Let YP be a possible target for deletion. YP must not properly contain XP.

Merchant is forced to stipulate MaxElide because he adopts an identity condition on VP ellipsis that, like Barros and Kotek's, permits elliptic VPs to license themselves. Problematically, MaxElide both over- and undergenerates, as Messick (2015) and Griffiths (2019) have shown. Once the idea that elliptic VPs can license themselves is discarded, a simpler and more promising explanation for the unacceptability of (ic) becomes available, as I will show shortly.

I submit that the F-approach makes incorrect predictions about these three datasets because it allows elliptic VPs to license themselves, and this leniency arises because the F-approach ignores the role of contrast in licensing VP ellipsis. Once contrast is factored in, one sees that elliptic VPs may never license themselves.

To be concrete about my conception of contrastivity, I define *contrast* as follows:

(54) **Contrast** (based on Krifka 2008: 252)
A phrase β *contrasts* with a phrase α only if:
a. α is in the immediately surrounding context
b. $[\![\alpha]\!]^o \in [\![\beta]\!]^f$ for all assignments *g*
c. $[\![\alpha]\!]^o \neq [\![\beta]\!]^o$ for all assignments *g*

This definition will suffice for my current purposes, insofar as it adequately reflects one's intuitions about contrastivity. For example, this definition captures the intuition that β contrasts with α in (55), but that the deaccented phrase β does not contrast with α in (56).

(55) a. [$_\alpha$ Mary likes cake] and [$_\beta$ Péter *likes cake*], too.
b. i. $[\![\beta]\!]^f$ = {Peter like cake, Mary likes cake, Carla likes cake, …}
ii. $[\![\alpha]\!]^o$ = Mary likes cake
iii. $[\![\alpha]\!]^o \in [\![\beta]\!]^f$ and $[\![\alpha]\!]^o \neq [\![\beta]\!]^o$; therefore, β contrasts with α

(56) a. Mary [$_\alpha$ likes cake] and Péter [$_\beta$ *likes cake*], too.
b. i. $[\![\beta]\!]^f$ = {λ*x*. *x* likes cake}
ii. $[\![\alpha]\!]^o$ = λ*y*. *y* likes cake
iii. $[\![\alpha]\!]^o \in [\![\beta]\!]^f$ but $[\![\alpha]\!]^o = [\![\beta]\!]^o$; therefore, β does not contrast with α

Following Schuyler (2001), Stockwell (2018), Griffiths (2019b), and ultimately Rooth (1992b:81 fn. 4, 86), I claim that VP ellipsis is ordinarily licensed under contrast. Because elliptic VPs themselves cannot enter into a contrastive relationship with an appropriate antecedent (as their Focus Semantic values are always singleton sets and therefore the situation already explicated for the deaccented phrase in (56) will always arise), this means that elliptic VPs cannot license themselves. Instead, elliptic VPs must be contained in a larger ID that establishes a relation of contrast with an appropriate antecedent. When one revisits the unacceptable examples from (48) and (53), one sees that ellipsis cannot be licensed because no relation of contrast can be established between any candidate ID-antecedent pair. Concrete examples are presented in (57) to (60).

(57) a. * If [$_{\alpha}$ John$_{j}$ is wróng], then [$_{\beta}$ he$_{j}$ is ~~wrong~~]. (repeated from (49d))

b. i. $[\![\beta]\!]^{f}$ = {John is wrong}

ii. $[\![\alpha]\!]^{o}$ = John is wrong

iii. $[\![\alpha]\!]^{o} \in [\![\beta]\!]^{f}$ but $[\![\alpha]\!]^{o} = [\![\beta]\!]^{o}$; therefore, β does not contrast with α

(58) a. * [$_{\alpha}$ Sue hired someone], but I don't know whó [$_{\beta}$ she did ~~hire~~ t_{1}]. (repeated from (51))

b. i. $[\![\beta]\!]^{o}$ = Sue hired x

ii. $[\![\beta]\!]^{f}$ = {Sue hired x}

iii. $[\![\alpha]\!]^{o}$ = Sue hired x

iv. $[\![\alpha]\!]^{o} \in [\![\beta]\!]^{f}$ but $[\![\alpha]\!]^{o} = [\![\beta]\!]^{o}$; therefore, β does not contrast with α

(59) a. * [$_{\alpha}$ Sue hired someone], but I don't know [$_{\beta}$ whó she did ~~hire~~ t_{1}].[13] (repeated from (51))

b. i. $[\![\beta]\!]^{o}$ = {Sue hired Sally, Sue hired Bob, Sue hired Bill, …}

ii. $[\![\beta]\!]^{f}$ = {Sue hired Sally, Sue hired Bob, Sue hired Bill, …}

iii. $[\![\alpha]\!]^{o}$ = $\exists x$. Sue hired x

iv. $[\![\alpha]\!]^{o} \neq [\![\beta]\!]^{o}$ but $[\![\alpha]\!]^{o} \notin [\![\beta]\!]^{f}$; therefore, β does not contrast with α

(60) a. * [$_{\alpha}$ They talked] and [$_{\beta}$ they did ~~talk~~] and they did ~~talk~~. (repeated from (52b))

b. i. $[\![\beta]\!]^{f}$ = {they talked}

ii. $[\![\alpha]\!]^{o}$ = they talked

iii. $[\![\alpha]\!]^{o} \in [\![\beta]\!]^{f}$ but $[\![\alpha]\!]^{o} = [\![\beta]\!]^{o}$ but; therefore, β does not contrast with α

If I am correct that ellipsis in these VP ellipsis configurations must be licensed under contrast, then it appears that English subordinative ellipsis can be licensed under (at least) two distinct discursive relations: (i) when the ID is a *congruent answer* to a question in the QUD or (ii) when the ID *contrasts* with a phrase in the immediately surrounding discourse. Having two independent licensing contexts for ellipsis therefore not only invalidates the F-approach's claim to universality, but also any claim to universality.

Further evidence for the existence of (at least) two distinct identity conditions on ellipsis comes from the observation that elliptic VPs are often licensed in contexts in which elliptic clauses are not. The dialogues in (61) to (64) provide examples. In these cases, clausal ellipsis is not licensed because Q-A congruence does not obtain (either because the elliptic clause does not answer the explicit question, as in (61) to (63), or because the embedded question in A's utterance is not added to the QUD,

[13] Griffiths (2019b) observes that ellipsis cannot be licensed in an elliptic VP ε if the ID contains the λ-binder of a wh-phrase that is extracted from ε. A concrete example is given in (i), in which the ID contrasts with its antecedent and yet ellipsis is judged as unacceptable because the ID contains an offending wh-λ-binder (see (ii)). It is currently unknown why this extraneous constraint on IDs holds.

(i) * [$_{\text{ANT}}$ John knows who Sue hired] and [$_{\text{ID}}$ Bób *knows who she did* ~~*hire*~~], too.

(ii) … [$_{\text{ID}}$ Bob$_{\text{F}}$ knows who λx Sue did [$_{\text{VP}}$ hire x]]

as in (64)), whereas VP ellipsis is licensed because a relation of contrast **can** be established between the ID containing the elliptic VP and a phrase in A's utterance (see (65) to (68) for the formulas).

(61) A: Who did John say [x has the key to the liquor cabinet]?
B: Well, Máry actually does ~~have the key~~, but I don't know what John said.
B': Well, Máry *(*has the key*), but I don't know what John says.

(62) A: Why did John go to the party?
B: Máry did ~~go to the party~~, and John does everything Mary does.
B': Máry *(*went to the party*), and John does everything Mary does.

(63) A: Which Brontë sister wrote *Emma*?
B: Jane Aústen did ~~write Emma~~, you fool.
B: Jane Aústen *(*wrote Emma*), you fool. ((61) to (63) come from Weir 2014)

(64) [*Context:* John's infidelity is the topic of conversation]
A_1: I don't care what he does anymore.
A_2: For instance, I don't care [ε who flirted with him last níght]. (broad-focus assertion)
B: Well, Róbert did ~~flirt with him~~.
B': Well, Róbert *(*flirted with him*).

(65) **For (61):**
a. Antecedent = [$_\alpha$ x has the key to the LC] (α = the embedded TP in (61A))
ID = [$_\beta$ Mary$_F$ has the key to the LC] (β = TP in (61B))
b. $[\![\alpha]\!]^o$ = x has the key to the LC
$[\![\beta]\!]^o$ = Mary has the key to the LC
$[\![\beta]\!]^f$ = {Mary has the key to the LC, Sue has the key to the LC, Sally has the key to the LC, …}
c. $[\![\alpha]\!]^o \in [\![\beta]\!]^f$ and $[\![\alpha]\!]^o \neq [\![\beta]\!]^o$; therefore, β contrasts with α

(66) **For (62):**
a. Antecedent = [$_\alpha$ John went to the party] (α = the embedded TP in (62A))
ID = [$_\beta$ Mary$_F$ went to the party] (β = TP in (62B))
b. $[\![\alpha]\!]^o$ = John went to the party
$[\![\beta]\!]^o$ = Mary went to the party
$[\![\beta]\!]^f$ = {Mary went to the party, John went to the party, Sue went to the party, …}
c. $[\![\alpha]\!]^o \in [\![\beta]\!]^f$ and $[\![\alpha]\!]^o \neq [\![\beta]\!]^o$; therefore, β contrasts with α

(67) **For (63):**

a. Antecedent = [$_{\alpha}$ *x* wrote *Emma*] (α = TP in (63A))
ID = [$_{\beta}$ Jane Austen$_{F}$ wrote *Emma*] (β = TP in (63B))

b. $[\![\alpha]\!]^{o}$ = *x* wrote *Emma*
$[\![\beta]\!]^{o}$ = Jane Austen$_{F}$ wrote *Emma*
$[\![\beta]\!]^{f}$ = {Jane Austen wrote *Emma*, George Elliot wrote *Emma*, Charlotte Brontë wrote *Emma*, …}

c. $[\![\alpha]\!]^{o} \in [\![\beta]\!]^{f}$ and $[\![\alpha]\!]^{o} \neq [\![\beta]\!]^{o}$; therefore, β contrasts with α

(68) **For (64):**

a. Antecedent = [$_{\alpha}$ *x* flirted with John last night] (α = TP in (64A))
ID = [$_{\beta}$ Robert$_{F}$ flirted with John last night] (β = TP in (64B))

b. $[\![\alpha]\!]^{o}$ = *x* flirted with John last night
$[\![\beta]\!]^{o}$ = Robert flirted with John last night
$[\![\beta]\!]^{f}$ = {Robert flirted with John, Steve flirted with John, Naomi flirted with John, …}

c. $[\![\alpha]\!]^{o} \in [\![\beta]\!]^{f}$ and $[\![\alpha]\!]^{o} \neq [\![\beta]\!]^{o}$; therefore, β contrasts with α

The dialogues in (61) to (64) raise the important question of why the elliptic clauses in speaker B's responses cannot be licensed under contrast, in the same way that the elliptic VPs are. Currently I have no good answer to this question, and therefore it must remain an open issue for future research.[14]

3.4 *An indecisive argument: Overgenerating antecedents*

Finally, I wish to point out that a datapoint presented by Barros and Kotek as problematic solely for the Q-approach is actually also problematic for the F-approach, too. This datapoint involves the unwelcome overgeneration of antecedents.

First, let us consider how the corrective dialogue in (69) is analysed under the F-approach. The ellipsis displayed in (69B) satisfies the Reduction Redundancy condition (see (2)) only if one assumes that the hearer can retrospectively apply F-marking to the PP *in the hills* in (69A). If one allows this, then $\cup[\![(69A)]\!]^{f} \leftrightarrow \cup[\![(69B)]\!]$, as (70) shows.

(69) A: The bandit is hiding in the hills.
B: No, ~~the bandit is hiding~~ in the fórest.

[14] It is worth pointing out that contrast also holds in each of the cases below, as the reader can confirm for herself. In the case of (iii), the ID establishes a contrast relation with the propositional core of the polar PIQ raised by (iiiA), namely *Did Sue fire someone?* (see Ginzburg and Sag 2000, Farkas and Bruce 2010, and Ginzburg 2012 for arguments that standard assertions raise polar PIQs). For discussion of more complicated intensional contrast cases, see Stockwell (2018:598).

(i) A: Who fired Sally?
B: Súe did.

(ii) A: Did Sue fire Sally?
B: (Yes,) she díd.

(iii) A: Sue fired Sally.
B: (Yes,) she díd.

(70) a. For (69A): $\cup[\![\text{B is hiding [in the hills]}_F]\!]^f = \lambda w.\ \exists x_{location}$ (B is hiding $x_{location}$ in w)
For (69B): $\cup[\![\text{B is hiding [in the forest]}_F]\!]^f = \lambda w.\ \exists x_{location}$ (B is hiding $x_{location}$ in w)
b. $\cup[\![(69A)]\!]^f \leftrightarrow \cup[\![(69B)]\!]^f$
c. ellipsis is licensed in (69)

Problematically, if one allows for retrospective F-marking to account for the acceptability of (69), then one incorrectly predicts that ellipsis is licensed in unacceptable cases of sluicing such as (71). This incorrect prediction arises because the Reduction Redundancy condition is satisfied in (71), as (72) shows.[15]

(71) A: The bandit is hiding in the hills.
B: (No, that's not true.) Currently, nobody knows whére *(*the bandit is hiding*).

(72) a. For (71A): $\cup[\![\text{B is hiding [in the hills]}_F]\!]^f = \lambda w.\ \exists x_{location}$ (B is hiding $x_{location}$ in w)
For (71B'): $\cup[\![\text{where B is hiding}]\!]^f = \lambda w.\ \exists x_{location}$ (B is hiding $x_{location}$ in w)
b. $\cup[\![(71A)]\!]^f \leftrightarrow \cup[\![(71B)]\!]^f$
c. ellipsis is licensed in (71B)

The Q-approach makes the same incorrect prediction about (71) and for precisely the same reason. (The only difference is that, under the Q-approach, the antecedent is an implicit question accommodated from (71A), rather than the antecedent being (71A) itself.) Consequently, such data, while interesting in their own right, cannot be used to support the F-approach over the Q-approach, contrary to Barros and Kotek's claim in section 3.4.5 of their paper.

4 Conclusion

Barros and Kotek (2019) argue for the superiority of their focus-based approach to the identity condition on clausal ellipsis to QUD-based approaches. Problematically, their critique of QUD-based approaches attacks a strawman and involves a number of unsound arguments. In this paper, I have undertaken a more balanced comparison. The results of my comparison of the F-approach from section 2.1 and the Q-approach from section 2.2. are summarised in Table 1.

[15] Precisely the same problem arises with corrective responses to narrow-focus polar questions. Ellipsis is licensed in the assertoric case but not in the sluicing case (compare (i) and (ii)).

(i) A: Is the bandit hiding in the hills?
B: No, ~~the bandit is hiding~~ in the FOREST.

(ii) A: Is the bandit hiding in the hills?
B: (No.) Currently, nobody knows whére the bandit is hiding.
B': * (No.) Currently, nobody knows whére ~~the bandit is hiding~~.

Table 1: The properties of clausal and VP ellipsis discussed in section 3 and whether the F- and Q-approach predict them

	Observations discussed in section 3	Is the observation predicted? *F-approach*	*Q-approach*
Antecedent accessibility			
1	No antecedents embedded inside explicit wh-questions	no	yes
2	Clausal ellipsis is not licensed if the antecedent wh-question receives negative/dismissive answer	no	yes
3	Clausal ellipsis can be licensed long-distance by wh-questions but not assertions	no	yes
4	Clausal ellipsis is not licensed if the raising of an antecedent question is suppressed	no	yes
Generating the correct set of alternatives			
5	Clausal ellipsis is licensed by an antecedent containing both a wide-scoping indefinite and an F-marked item	no	yes
Extensibility to VP ellipsis			
6	VP ellipsis is not licensed in tautological utterances	no	—*
7	VP ellipsis is not licensed in rebinding configurations in which there is no F-marked item between the wh-λ-binder and the elliptic VP	no	—
8	VP ellipsis is not licensed in self-conjoining utterances	no	—
9	VP ellipsis is licensed in many configurations in which clausal ellipsis is not licensed	no	—

* Because the Q-approach from section 2.2 is not intended as a licensing condition on VP ellipsis, it makes no predictions about the distribution of VP ellipsis. Thus, it is compatible with observations 6 to 9, but trivially so.

I draw two main conclusions from this comparison. First, QUD-based approaches to English clausal ellipsis are superior to the focus-based approaches, contrary to Barros and Kotek's original claim. Second, Barros and Kotek's particular instantiation of the focus-based approach displays fundamental flaws, such as overgenerating alternatives in the antecedent (see section 3.3) and failing utterly as a licensing condition on VP ellipsis (see section 3.4), that starkly demonstrates its unsuitability as the basis for a licensing condition on English subordinative ellipsis.

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