

Nipped in the Bud: Failed sprouting in QUD not-at-issue content

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1 Introduction

As demonstrated rather effectively in [Fiengo & Lasnik 1972](#), a condition on ellipsis is the ability to recover the content of the ellipsis site. Theories regarding this recoverability condition are usually built to find an antecedent in one particular domain. The standard, defended in [Hankamer & Sag 1976](#), and much subsequent work, is to find the antecedent within previously spoken content. This provides a way to understand the contrast in (1) and (2).¹

- (1) *Context: Rowan produces an accordion and plays Truth Hurts by Lizzo.*
Kim: # Yeah, but not JANE.
- (2) Sam: Listen, Rowan can play *Truth Hurts* by Lizzo on the accordion.
Kim: Yeah, but not JANE ~~can play *Truth Hurts* by Lizzo on the accordion.~~

Kim's elliptical comment is infelicitous in (1), the story goes, because no content is explicitly provided to supply the intended interpretation for the ellipsis. On the other hand, the same ellipsis construction is possible in (2), modulo Relevance implicatures, because Sam's comment provides an antecedent.

The literature has catalogued a significant amount of that data that is problematic for this view of recoverability, however. For instance, there are cases of permitted ellipsis whereby the previously spoken material does not provide the content that is intuitively interpreted in the ellipsis site (see [Lipták 2015](#) and references therein). One interesting example is provided in (3) from [Hardt 1999](#):

- (3) I'll help you if you [_{VP} want me to [_{VP} ~~help you~~]].
I'll [_{VP} kiss you] even if you don't [_{VP*} ~~want me to kiss you~~].

The intuition reported for this example is that the elided VP* permits an interpretation that cannot be recovered in its entirety from any of the spoken content. This has been taken as an indication that the content of the ellipsis is not (exclusively) recovered from spoken material (see also [Schwarz 2000](#) and [Tomioka 2008](#)).

Such issues, alongside other considerations, have motivated alternative theories about where an antecedent can be recovered from as part of resolving an ellipsis site. An influential alternative proposes that an antecedent for ellipsis can be recovered from a salient, possibly implicit, question meaning in the discourse. This

¹I will use ~~strike through~~ text to indicate elided content and ALL CAPS to indicate a pitch accent.

idea has been applied productively in the domain of sluicing (Ginzburg & Sag 2000, AnderBois 2011, Barros 2014), as well as fragment answers to questions (Weir 2014).

I propose in this paper that it is in principle possible for an instance of ellipsis to recover an antecedent from either of these domains: previously spoken material or an implicit question meaning. This view of recoverability provides an account for the under-appreciated contrast in the examples of Stripping below:

- (4) Kim read (the ARTICLE) { but / and } not ~~Kim read~~ the BOOK.
- (5) Kim read *(the ARTICLE) { more carefully than / after }
~~Kim read~~ the BOOK.

Stripping in coordination configurations like (4) permits Sprouting of the remnant of ellipsis *the book*, meaning the correlate *the article* need not be present. The same is not true for comparative constructions nor for temporal adverbial constructions in (5). We will consider such data in more detail, alongside relevant background on Stripping and Sprouting, in section 2.

In section 3 I propose that the operative difference between the configurations in (4) and (5) is in regard to their status with respect to the Question Under Discussion (QUD; Büring 2003, Roberts 2012). We will consider the results of diagnostics suggesting that the content of a second conjunct is QUD at-issue whereas the content of comparatives and temporal adverbials is QUD not-at-issue. The generalization to be derived, therefore, can be stated as in (6).

- (6) For any domain D such that Stripping is attested in D, if D is not-at-issue with respect to the QUD, then D will not permit sprouting.

I present an account of this generalization in section 4 that employs a focus-based semantic redundancy condition on ellipsis (Rooth 1992b). While this condition permits the recovery of an antecedent from either spoken content or an implicit QUD, I argue that Sprouted Stripping requires antecedence by the QUD. This can be thought of as an effect of the lack of parallelism between the stripped constituent and any spoken content. Hypothesizing that being anaphoric to an appropriate QUD is gated by QUD at-issueness, the desired result is that Sprouted Stripping in comparatives and temporal adverbials fails to recover an antecedent for ellipsis.

In section 5 I summarize and conclude the paper.

2 Stripping and Sprouting

2.1 Stripping


Stripping is a species Bare Argument Ellipses that, as described by Hankamer & Sag (1976), is a phenomenon whereby a clause is deleted with the exception of one constituent. I will refer to the constituent spared deletion as the “remnant.” Examples like those in (7) are commonly used to exemplify these constructions.

(7) *Coordinations*

- a. Kim read the article, { but / and } she did not read the book.
- b. Kim read the ARTICLE, { but / and } not ~~Kim read~~ the BOOK.

Such cases of coordinate Stripping have received the bulk of the attention in the theoretical literature (see Johnson 2019). As part of the analysis to be presented, we will adopt the basic syntactic treatment presented by Depiante (2000) and sketched roughly in (8).

(8) Kim read the ARTICLE [but not [the BOOK]₁ ~~Kim read~~ _T]



On this treatment, Stripping involves \bar{A} -movement of the remnant to a focus position outside an elided clausal constituent.

A commonly encountered claim regarding Stripping is that it is only possible in coordinations (e.g., Lobeck 1995). This claim is supported by examples like those in (9), which are adapted from Johnson 2019.

- (9)
- a. * Jones likes seafood { because / although } ~~she likes~~ bread too.
 - b. * Jones eats seafood { whenever / then } ~~she eats~~ bread too.

There are two relatively well-known cases that have been proposed in the literature to counter-exemplify this claim.

First, it has been argued that phrasal comparatives like (10b) are derived from a clausal counterpart in (10a) via a Stripping-like deletion operation.

(10) *Comparatives*

- a. Kim read the ARTICLE more carefully than she read the BOOK.
- b. Kim read the ARTICLE more carefully than ~~Kim read~~ the BOOK.

This idea can be traced back to [Hankamer 1971](#) and has been argued for extensively by [Lechner \(2004\)](#). There is some variation in the exact syntactic analysis proposed for such cases. For concreteness, we will follow [Pancheva \(2009\)](#) and more closely [Merchant \(2009\)](#) on this issue. As shown in (11), this gives phrasal comparatives a syntax analogous to that of coordinate Stripping seen above.

(11) Kim read the article more carefully [than [the book]₁ ~~Kim read~~_T]

As before, the phrasal constituent is a remnant generated by \bar{A} -movement that targets a position outside of the elided clausal constituent.

A second instance of an apparent Stripping-like operation outside of coordinations can be found in temporal adverbial constructions. These, too, come in both full clausal and phrasal forms; see (12).

(12) *Temporal Adverbials*

- a. Kim read the ARTICLE, before/after she read the BOOK.
- b. Kim read the ARTICLE, before/after ~~Kim read~~ the BOOK.

The idea that these constructions involve a similar clause-reduction mechanism can be traced back to [Geis 1970](#) and has been further refined by [Larson \(1987\)](#) and [Thompson \(2005\)](#). Following recent discussion from [Overfelt \(accepted\)](#) we can adopt the same syntax as above for these examples. Consider (13):

(13) Kim read the article [after [the book]₁ ~~Kim read~~_T]

Once again, the phrasal remnant is generated by \bar{A} -movement out of an elided clausal constituent.

Each of these configurations have also been claimed to have a source other than ellipsis. [Reinhart \(1991\)](#) and [May \(1991\)](#) propose an approach to coordinate stripping, as well as other related configurations, that involves rightward movement of the remnant. Phrasal comparatives have been given “direct” analyses, notably by [Kennedy \(1999\)](#), whereby the connective element *than* directly combines with the phrasal constituent. Similarly, [Penka & von Stechow \(2011\)](#) argue that the connectives *before* and *after* combine directly with a phrasal complement in phrasal temporal adverbials. The reader might consult the literature cited above for more in-depth discussion of data supporting an ellipsis analysis these constructions. For our purposes, we will simply consider a couple of relevant data points.

To begin, the particular ellipsis analysis that we have adopted predicts that the remnant, which has undergone \bar{A} -movement, will be sensitive to island boundaries (e.g., Reinhart 1991, Merchant 2004). The following sets of examples are intended to demonstrate that, for each Stripping configuration at hand, this is the case.

(14) *Complex-NP Island*

I met [DP someone who knows DUTCH] { but not / earlier than / before }

a. [DP someone who knows RUSSIAN]₁ < ~~I met~~ x_T >

b. * RUSSIAN₁ < I met [~~DP someone who knows~~ x_T] >

(15) *Left-Branch Island*

Sam read KIM's book { but not / more often than / after }

a. [DP ANN's book]₁ < ~~Sam read~~ x_T >

b. * ANN₁ < Sam read [~~DP x_T 's book~~] >

The (a) variants of the examples above show the grammaticality of a remnant that contains a Complex-NP Island and Left-Branch Island. The ungrammaticality of the (b) variants can be understood on the assertion that the attempted remnants have been extracted from these island environments.

We also make specific predictions regarding the remnant's behavior with respect to binding. If the remnant of Stripping is \bar{A} -moved from elided material, it will show binding connectivity effects with elided material (e.g., Lechner 2004, Bhatt & Takahashi 2011). Observe first that the string in (16) is ambiguous between the interpretations that are provided. The remnant *his boss* can either receive a subject interpretation (16a) or an indirect object interpretation (16b). As pointed out by Rooth (1992b), the placement of a pitch accent in the preceding clause draws out each interpretation.

(16) a. MAX took Joe₁ to Sue {but not / earlier than / before}

his₁ BOSS₂ < ~~x_2 took him₁ to Sue~~ >

b. Max took Joe₁ to SUE {but not / earlier than / before}

his₁ BOSS₂ < Max took him₁ to x_2 >

This makes the set of sentences in (17) informative. Switching the R-expression *Joe* and its coreferent pronoun *his* removes the ambiguity observed above.

- (17) a. MAX took him₁ to Sue {but not / earlier than / before}
 Joe₁'s BOSS₂ ⟨ ~~x₂ took him₁ to Sue~~ ⟩
- b. *Max took him₁ to SUE {but not / earlier than / before}
 Joe₁'s BOSS₂ ⟨ ~~Max took him₁ to x₂~~ ⟩

The indirect object interpretation in (17b) is intuitively interrupted by a disjoint reference effect. This is precisely what an ellipsis analysis of these constructions predicts. Assuming that the remnant is extracted from some elided material, the indirect object interpretation will require generating the the R-expression *Joe's boss* in the scope of the coreferent pronouns *him*. The observed ungrammaticality, therefore, is expected as the result of a Condition C violation.

We will assume moving forward that the configurations discussed in this section all involve Stripping, or a Stripping-like construction, as has been sketched above.²

2.2 Sprouted Stripping

Sprouting, which was notably discussed by [Chung et al. \(1995\)](#), is typically exemplified with pairs of Sluicing configurations like those in (18).

- (18) a. Kim read something, but I forgot what₁ ~~Kim read x_T~~
- b. Kim read, but I forgot what₁ ~~Kim read x_T~~

[Merchant \(2001\)](#) presents a line of argumentation that the remnant constituent *what* in Sluicing configurations is \bar{A} -moved out of an elided clausal constituent. The same can be said for the instance of Sprouted Sluicing in (18b). In this latter case, however, the absence of *something* from the first conjunct means the remnant *what* lacks a “correlate” and has sprouted from the ellipsis site.

As has been pointed out previously by [Nakao et al. \(2012\)](#), Sprouting is also possible in Stripping configurations. The examples in (19) illustrate.

- (19) a. Kim read the ARTICLE, { but / and } not ~~Kim read the BOOK.~~
- b. Kim READ, { but / and } not ~~Kim read the BOOK.~~

The remnant of the Stripping operation *the book* has an overt correlate in *the article* in (19a). However, the remnant is sprouted in (19b), as it has no overt correlate.

²For concreteness, I assume that the ellipsis site contains syntactic content that is present throughout the derivation but goes unpronounced. See [Merchant 2019](#) for relevant discussion.

Our empirical puzzle is the relative unacceptability of Sprouted Stripping in both comparative constructions (20) and temporal adverbial constructions (21).

- (20) a. (Generally,) Kim reads more carefully than she reads the BOOK.
b. * (Generally,) Kim reads more carefully than ~~Kim reads~~ the BOOK.
- (21) a. Kim read (for another hour) after she read the BOOK.
b. * Kim read (for another hour) after ~~Kim read~~ the BOOK.

The (b) variants of these examples demonstrate that sprouting is severely degraded, if not ungrammatical, in these constructions. The (a) variants demonstrate, importantly that there is nothing in principle that is wrong with the syntax of the sources for these constructions. The string in (20a) can be uttered in context in which there is a contextually salient book such that Kim reads that book with little care or concern for its content. When she reads other things more generally, however, she displays a greater amount of care. Similarly, the example in (21a) is an acceptable response to a question regarding what Kim did after she read the book.

3 Sprouting is gated by QUD at-Issueness

This section characterizes the empirical puzzle presented in the previous section as an instantiation of the following generalization:

- (22) For any domain D, such that Stripping is attested in D, Sprouted Stripping is possible only if the content of D is at-issue with respect to the QUD.

Behind this generalization is the idea that discourses are structured into questions to be resolved and utterances intended to resolve them (e.g., [Büring 2003](#), [Roberts 2012](#)). The question that interlocutors are actively attempting to resolve is the Question Under Discussion (QUD). The QUD is to be treated as a salient object in the discourse that has, at minimum, the logico-semantic content of a question.

The concept of at-issueness that we will capitalize on is a notion formulated by [Simons *et al.* \(2010\)](#) and [Tonhauser \(2012\)](#). It provides a way of understanding the intuition that not all utterances, or parts of utterances, are able to contribute felicitously to resolving the QUD. For convenience, we will adopt the definition of QUD at-issueness that is presented by [Koev \(2018:3, \(2\)\)](#) and provided below:

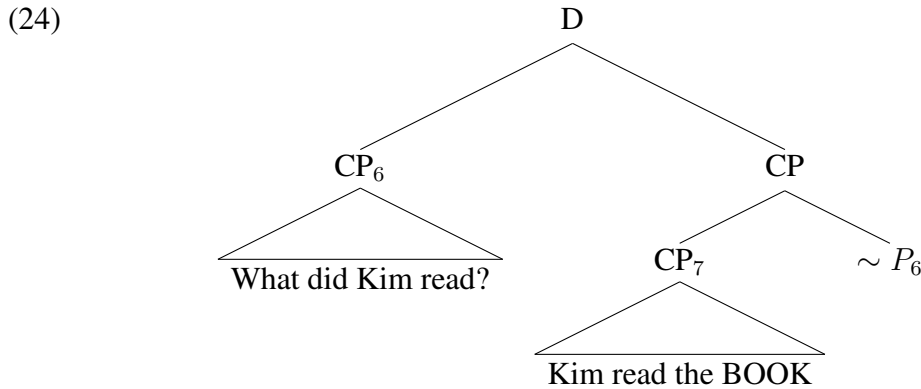
- (23) A proposition p is at-issue with respect to the QUD *iff*
- i. p is relevant to the QUD and
 - ii. p is appropriately conventionally marked relative to the QUD.

It is with respect to this concept of QUD at-issueness that we will distinguish between the content of coordinations and the content of comparatives and temporal adverbials. For the purpose of the analysis it will be useful to introduce each clause of this definition in turn.

3.1 Relevance to the QUD

Concerning the first clause of (23), a common way of talking about the relevance of a proposition p to the QUD is whether or not p shifts the probabilistic weights among the possible answers to the question (Carnap 1950, Büring 2003, Koev 2018). One way to do this, which will be of interest, is through “congruent answers.” These are those answers to the questions that, following Rooth (1992a) and Roberts (2012), have the same focal structure as the question.

By way of demonstration, consider the congruent question-answer pair in (24):



The idea is couched within an Alternative Semantics framework (Rooth 1992b), which proposes that utterances have both an ordinary semantic value $\llbracket \cdot \rrbracket^o$ and a focus semantic value $\llbracket \cdot \rrbracket^f$. The focus semantic value of an expression is calculated point-wise, like an ordinary semantic value, while also replacing “focus-marked” constituents with their alternatives. The result is a set of alternative meanings that exist alongside the ordinary meaning of the utterance.

The focus semantic value of the answer CP_7 in (24) is the set of propositions derived by replacing the focus-marked instance of *the book* with its possible alter-

natives, shown in (25a). We will equivalently represent this with the abbreviated set notation in (25b).

$$(25) \quad \begin{array}{l} \text{a. } \llbracket \text{CP}_7 \rrbracket^f = \left\{ \begin{array}{l} \text{that Kim read the book, that Kim read the article} \\ \text{that Kim read the magazine, } \dots \end{array} \right\} \\ \text{b. } \llbracket \text{CP}_7 \rrbracket^f = \{p : \text{that Kim read } x \mid x \in D_e\} \end{array}$$

The requirement that CP_7 serve as a congruent answer to the question in CP_6 is enforced by \sim (“squiggle”), the focus interpretation operator. The \sim operator introduces a propositional variable P along with a constraint that P is anaphoric to a discourse antecedent with an ordinary semantic value that is a subset of the focus semantic value of the sister of $\sim P$.

Considering the discourse in (24) again, focus interpretation is at the level of CP_7 and P identifies the explicitly proffered QUD in CP_6 as its discourse antecedent. Following Hamblin (1973) and Rooth (1992a), the meaning of a question like CP_6 is similarly modeled as a set of alternatives representing possible answers. Assuming that *wh*-constituents like *what* vary as part of the calculation of alternatives sets, the meaning of CP_6 is as in (26a), equivalently represented in (26b).

$$(26) \quad \begin{array}{l} \text{a. } \llbracket \text{CP}_6 \rrbracket^o = \left\{ \begin{array}{l} \text{that Kim read the book, that Kim read the article} \\ \text{that Kim read the magazine, } \dots \end{array} \right\} \\ \text{b. } \llbracket \text{CP}_6 \rrbracket^o = \{p : \text{that Kim read } x \mid x \in D_e\} \end{array}$$

Because the ordinary semantic value of CP_6 is a subset of the focus semantic value of CP_7 ($\llbracket \text{CP}_6 \rrbracket^o \subseteq \llbracket \text{CP}_7 \rrbracket^f$) the congruence constraint of \sim is satisfied. This makes CP_7 a congruent answer to the question in CP_6 and, thus, relevant to this question.

While the QUD in the discourse above is explicitly presented, it is also commonly recognized that the QUD may only be implicit in the discourse. Consider the exchange presented in (27).

$$(27) \quad \begin{array}{l} \text{A:} \quad \text{What did Kim do?} \\ \text{B:} \quad \text{She read. } \rightsquigarrow \left\{ \begin{array}{l} \text{What did Kim read, When did Kim read,} \\ \text{Where did Kim read, With whom did Kim read, } \dots \end{array} \right\} \\ \quad \text{And before you ask, she read the BOOK.} \end{array}$$

The initial response of *Kim read* that B provides seems to conversationally implicate a family of potential follow-up questions (see also Büring 2003). Given that

Kim read, it is possible to inquire further about the details of this event, including the what, when, where, etc. That such questions are “hanging around” waiting to serve as the QUD and be resolved is made clear by B’s continuation. B is able to acknowledge the possibility of further inquiry and in fact answer any of these questions without proffering them explicitly.

Which of these follow-up questions serves as the subsequent QUD, however, must be inferred from the focal structure of B’s utterance (e.g., [Büring 2003](#), [Roberts 2012](#)). Given the focal structure of *she read the BOOK*, this could only be a congruent answer for the question *What did Kim read?*.

3.2 Conventional marking relative to the QUD

The second clause of the definition for QUD at-issueness in (23) says, in the words of [Koev \(2018\)](#), that p must be “appropriately packaged” in a linguistic form that both sufficiently signals and permits relevance to the QUD. It is on this dimension that I propose we find the operative difference between the content of second conjuncts and the content of both comparative and temporal adverbial constructions.³

More specifically, there is evidence to suggest that the content of a second conjunct is packaged in such a way that it can be construed as an intent to address the QUD. In this sense, it is content that is QUD at-issue. This claim is similar to the discussion found in [Potts 2005](#), which argues that *but* conjoins two separate at-issue propositions. The content of temporal adverbials and comparatives, on the other hand, will be found to behave as if it is not packaged in such a way that signals an intent to address the QUD. The content contained inside these configurations, therefore, is QUD not-at-issue. This is a conclusion about temporal adverbials that has also been reached by [Gor & Syrett \(2019\)](#).

Evidence that speaks to this distinction can be found in a set of diagnostics consolidated and presented by [Tonhauser \(2012\)](#). One of these diagnostics hypothesizes that, if some propositional content can be construed as an intent to address the QUD, it can be assented to or dissented with. As shown in (28), interpreting the responses by B as attempts to solely assent to or dissent with the content *Kim read the book* when it appears inside a temporal adverbial or comparative is infelicitous.

³Note that the claim here is not that temporal adverbials and comparatives cannot themselves be or be a part of QUD at-issue content. The claim to be had here is that the propositional content contained within these constructions is not-at-issue with respect to the QUD.

On the other hand, B's responses are relatively acceptable when directed towards the content of a second conjunct in (29).

(28) *Comparatives / Temporal adverbials*

A: Tim read the article { faster than / after } Kim read the book.

B1: # Yeah, that's what she did.

B2: # No, that's not what she did.

(29) *Second Conjuncts*

A: Tim read the article { but / and } Kim read the book.

B1: Yeah, that's what she did.

B2: No, that's what she did.

A second diagnostic investigates whether some propositional content can solely serve as an answer to the QUD. In the examples below, the explicitly proffered QUD will serve as the discourse antecedent for answers with the form of a proposition in $\{ p : \text{that Kim read } x \mid x \in D_e \}$. A proposition of the appropriate form is provided by B in the content of a comparative and temporal adverbial in (30), but it is not easily interpreted as a felicitous attempt to answer the QUD. In contrast, a congruent answer is presented in a second conjunct in (31). The result is a relatively more felicitous attempt to answer the QUD.

(30) *Comparatives / Temporal adverbials*

A: What did Kim read?

B: # Kim left { faster than / after } she read the BOOK.

(31) *Second conjuncts*

A: What did Kim read?

B: Kim left { but / and } she read the BOOK.

The contrasts presented in the data above support the claim that the content of second conjuncts and the content of comparatives and temporal adverbs have a different status in the discourse. With respect to the concept of QUD at-issueness, content that is intended to be relevant to the QUD can be packaged inside of a second conjunct, but not inside of a comparative or temporal adverbial. As stated in the generalization in (22), this distinction coincides with the possibility for Sprouted Stripping. The following section turns to an account for this correlation.

4 Differential recoverability conditions

4.1 Recovering spoken antecedents

Along with a recoverability condition, ellipsis is subject to a redundancy condition, requiring the ellipsis site to have some sense of identity with its antecedent. This is a requirement that [Rooth \(1992a\)](#) delivers with a condition like in (32):

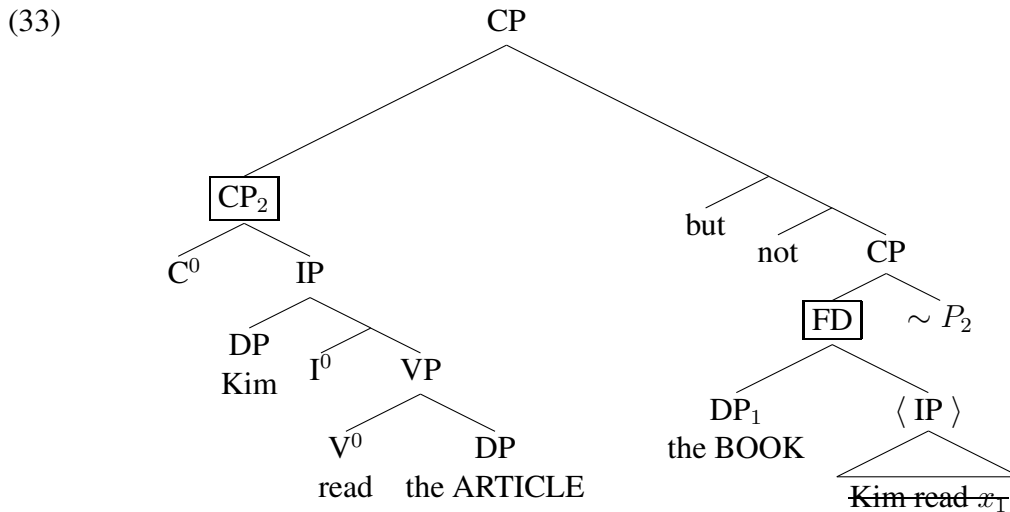
(32) *Ellipsis Redundancy Condition*

Ellipsis of XP is permitted only if:

- i. there is a recoverable antecedent constituent (AC),
- ii. there is a focus domain (FD) that contains XP, and
- iii. $\llbracket AC \rrbracket^o \subseteq \llbracket FD \rrbracket^f$.

This condition is an extension of the Alternative Semantics theory of focus interpretation seen above. We can, therefore, understand it to be enforced by the focus interpretation operator \sim .

Consider the representation below in (33) for a case of Stripping in a coordination configuration. In the same way as before, \sim introduces a propositional variable P that is anaphoric to a discourse antecedent. The indexing P_2 represents the recovery of CP_2 from the previously spoken content as the AC for the ellipsis. The level at which focus is interpreted will determine the FD. In (33) this is the constituent immediately dominating the focus-marked remnant *the book*.



As shown in the calculation of ellipsis redundancy in (34), the ordinary semantic value of CP_2 is a subset of the focus semantic value of the FD. Thus, Stripping in

this construction is permitted.

- (34) i. $\llbracket \text{CP}_2 \rrbracket^o = \{ \text{that Kim read the article} \}$
 ii. $\llbracket \text{PD} \rrbracket^f = \{ p : \text{that Kim read } x \mid x \in D_e \}$
 iii. $\llbracket \text{CP}_2 \rrbracket^o \subseteq \llbracket \text{FD} \rrbracket^f$, ellipsis is permitted

The same treatment can be provided for Stripping in comparatives and temporal adverbials. This is illustrated in a condensed format in (35).

- (35) $[\text{AC Kim read the ARTICLE}]_2 \{ \text{faster than / after} \}$
 $\llbracket [\text{FD the BOOK Kim read } x] \sim P_2 \rrbracket$
 i. $\llbracket \text{AC}_2 \rrbracket^o = \{ \text{that Kim read the article} \}$
 ii. $\llbracket \text{FD} \rrbracket^f = \{ p : \text{that Kim read } x \mid x \in D_e \}$
 iii. $\llbracket \text{AC}_2 \rrbracket^o \subseteq \llbracket \text{FD} \rrbracket^f$, ellipsis is permitted

The claim, again, is that the propositional variable argument P is able to establish an anaphoric link with a constituent in the representation of previously spoken content and this constituent provides a suitable AC for the ellipsis site.

4.2 Sprouted Stripping recovers the QUD

There is body of recent literature that is moving in the direction of the idea that different types of ellipsis may recover their antecedents from different domains. For instance, [AnderBois \(2014\)](#) and [Weir \(2014\)](#) have provided extensive argumentation, respectively, that sluicing and fragment answers require antecedence from a possibly implicit question meaning in the discourse—the QUD in our terms. And each author independently reaches the conclusion that, at minimum, this is not a requirement for VP-Ellipsis, which can recover its antecedent from elsewhere.

I would like to propose that Stripping reflects this flexibility in the recovery of an antecedent. More specifically, the antecedent for an instance Stripping can in principle be recovered from previously spoken material or from some possibly implicit QUD in the discourse. Thus, while in the previous subsection, redundancy was established via an anaphoric link with a constituent in the previously spoken content, redundancy may also be established with an implicit QUD. Moreover, I propose that this is necessary in cases of Sprouted Stripping and provides a means to account the absence of Sprouted Stripping in comparatives and temporal adverbials.

To begin, consider in (36) the instance of Sprouted Stripping in a coordination configuration. I argue that this representation, in which a syntactic antecedent is recovered, is not a possible representation for this string.

- (36) * [AC Kim read]₂ but not [[FD the BOOK ~~Kim read x~~] ~ P₂]
- i. [[AC₂]]^o = { that Kim read }
 - ii. [[FD]]^f = { p : that Kim read x | x ∈ D_e }
 - iii. [[AC₂]]^o ⊈ [[FD]]^f, ellipsis is *not* permitted.

The calculation of ellipsis redundancy will determine that the spoken content in the first conjunct of (36) fails to provide a suitable antecedent for the ellipsis site. As shown, the ordinary semantic value of the first conjunct is not a subset of the focus semantic value of the FD. Therefore, ellipsis will not be permitted by way of establishing an anaphoric link with the spoken content in AC₂.

By hypothesis, this will be the case regardless of one's assumptions regarding the realization of implicit arguments (see [Bhatt & Pancheva 2017](#)). If the implicit argument of AC₂ in (36) could contribute to an antecedent for Stripping, the same would presumably be true for those cases of Sprouted Stripping in comparatives and temporal adverbials:

- (37) * Kim read { more carefully than / after } the BOOK ~~Kim read~~.

Therefore, assuming that the an implicit argument plays a role in establishing redundancy in (36) makes the observed contrast with (37) unexpected.

In addition to this consideration, there is an empirical reason to think that implicit arguments generally do not contribute to the establishment of syntactic antecedents for instances of Sprouting. [Overfelt \(in prep\)](#) discusses the fact that Sprouting is not permitted from VP-Ellipsis, including the instance in (38).

- (38) a. KIM will read the ARTICLE, and [the BOOK]₁ SAM will ~~read x~~.
 b. * KIM will READ, and [the BOOK]₁ SAM will ~~read x~~.

This is an observation that can be understood by way of two claims. The first, building off of [AnderBois \(2011\)](#) and [Weir \(2014\)](#), is that VP-Ellipsis cannot recover an antecedent from the QUD. The second, which is being proposed here, is that Sprouted ellipsis cannot find a suitable antecedent in the spoken syntax. This

is argued to be, in part, a general effect of the obligatory low-scope property of implicit indefinites. This property of implicit arguments precludes satisfaction of an operator-variable Parallelism requirement (see [Thoms 2015](#)), which in turn precludes satisfaction of the redundancy condition adopted here.

What distinguishes our cases of Stripping is the claim that Stripping can recover an antecedent not only from previously spoken content, but also from an implicit QUD.⁴ As was discussed surrounding the exchange presented in (27), the focal structure of an utterance is commonly thought to indirectly signal the QUD. The same can be said for the instance of Stripping under investigation here. Consider the calculation of redundancy provided in (39):

- (39) [Kim read] but not [[_{FD} the BOOK ~~Kim read x~~] $\sim P_3$]
- i. [Kim read] \rightsquigarrow $\left\{ \begin{array}{l} \text{[QUD What did Kim read]}_3, \text{ When did Kim read,} \\ \text{Where did Kim read, With whom did Kim read, . . .} \end{array} \right\}$
- [[QUD]]^o = { p : that Kim read x | $x \in D_e$ }
- ii. [[FD]]^f = { p : that Kim read x | $x \in D_e$ }
- iii. [[QUD]]^o \subseteq [[FD]]^f, ellipsis is licensed.

I propose that in cases of Sprouted Stripping such as this, the antecedent is provided by a QUD that is drawn from an implicated family of potential questions. This can be thought to occur in the same way that was demonstrated in (27). The assertion of *Kim read* signals the possibility of asking a number of follow-up questions provided in (39i). Which of these potential questions is promoted to the QUD can again be inferred from the focal structure of the continuation. Specifically, I claim that it is the focus-marked remnant of the Stripping operation *the book* that presupposes and signals an intent to address the QUD *What did Kim read?*.

As the QUD in (39), the question meaning of *What did Kim read?* can be recovered from the discourse via an anaphoric link with the propositional variable argument P_3 and serve as the antecedent, much like we saw above. Because the ordinary semantic value of this question meaning is a subset of the focus semantic value of the FD in the second conjunct, redundancy is established and ellipsis is permitted.

⁴See [Overfelt \(in prep\)](#) on the source of this difference between Stripping and VP-Ellipsis.

4.3 When the QUD is out of reach

Finally, we consider the unavailability of Sprouted Stripping in comparatives and temporal adverbials. The idea presented below is that the being content that is QUD not-at-issue, while simultaneously being content responsible for raising the QUD to serve as an antecedent, will inevitably fail. This conflict, along with the absence of a suitable syntactic antecedent, results in an impermissible instance of ellipsis.

Let us appreciate, first, that the spoken content in these configurations will fail to provide a suitable AC, exactly as desired.

- (40) * $[_{AC} \text{ Kim read }]_2 \{ \text{ more carefully than / after } \}$
 $[[_{FD} \text{ the BOOK Kim read } x] \sim P_2]$
- i. $[[AC_2]]^o = \{ \text{ that Kim read } \}$
 - ii. $[[FD]]^f = \{ p : \text{ that Kim read } x \mid x \in D_e \}$
 - iii. $[[AC_2]]^o \not\subseteq [[FD]]^f$, ellipsis is *not* permitted.

As can be seen in (40), the spoken content is again not the correct shape to satisfy the redundancy condition on ellipsis. Ellipsis is, therefore, not expected to be permitted by way of redundancy with an antecedent in the previously spoken content.

The recourse taken above was to rely instead on an implicit QUD to provide an appropriate antecedent. I claim that this will not be a successful strategy for resolving the instances of Sprouted Stripping in the present case, however. The diagnostics presented in section 3.2 to argue that content packaged in comparatives and temporal adverbials is QUD not-at-issue are consistent with the claim that this content is generally marked as presupposed.⁵ The presupposed status of this content will necessarily conflict with a requirement for that same content to raise a QUD. As explicated by Aravind & Hackl (2017), accommodating some presupposed content requires accepting that content as an answer to its congruent question, thus signaling that question as being resolved. Because the QUD is, by definition, an unresolved question, requiring presupposed content to raise the QUD places conflicting requirements on the discourse.

Consider, in this light, the calculation of redundancy presented in (41):

⁵See also Hooper & Thompson 1973 on temporal adverbials. A potential issue for this characterization of the data is the non-veridicality of the content of *before*-clauses (see Beaver & Condoravdi 2003). This issue must be left for future discussion.

- (41) * [Kim read] { more carefully than / after }

$$[[_{\text{FD}} \text{ the BOOK } \text{Kim read } x] \sim P_{??}]$$
 - i. [Kim read] \rightsquigarrow $\left\{ \begin{array}{l} \text{What did Kim read, When did Kim read,} \\ \text{Where did Kim read, With whom did Kim read, } \dots \end{array} \right\}$
 $[[\text{AC}]^o = ??$
 - ii. $[[\text{FD}]^f = \{p : \text{that Kim read } x \mid x \in D_e\}$
 - iii. $[[\text{AC}]^o \not\subseteq [[\text{FD}]^f$, ellipsis is *not* licensed.

As before, we assume that *Kim read* will implicate a family of potential follow-up questions. Among these will be the desired QUD of *What did Kim read?*. The difference here is that the content of the continuation cannot felicitously be construed as an attempt to address the QUD. As suggested immediately above, as presupposed content it cannot signal an intent to raise and resolve a QUD. The desired result is that the question meaning *What did Kim read?* is not felicitously established as the QUD. This has the knock-on effect that the propositional variable argument of $\sim P$ fails to establish an anaphoric link with a discourse antecedent that satisfies the redundancy condition on ellipsis.

In sum, the instances of Sprouted Stripping in comparatives and temporal adverbials are ungrammatical as impermissible instances of ellipsis. This is a reflection of the conflict between the need for Sprouted ellipsis to be anaphoric to the QUD, and the inability for a QUD of the appropriate form to be felicitously introduced to the discourse. Again, this conflict does not arise in the case of coordinate structures. As argued in section 3.2 the content of those structures is QUD at-issue, meaning that this content manages to raise the appropriate QUD.

5 Conclusion

In what preceded I proposed the following generalization on the availability of Sprouted Stripping:

- (42) For any domain D such that Stripping is attested in D, if D is not-at-issue with respect to the QUD, then D will not permit sprouting.

This generalization was based on a proposed correlation between the unavailability of Sprouted Stripping in comparative and temporal adverbial constructions and the QUD not-at-issueness of the embedded content of those constructions. The content

of a second conjunct, on the other hand, was argued to be QUD at-issue and was observed to allow Sprouted Stripping.

I presented an account of this generalization that permits Stripping to, in principle, recover an antecedent from either the spoken content of an utterance or an implicit QUD. In the case of Sprouting, the implicit QUD that is recovered as an antecedent is signaled and raised by the Stripping site (cf. Kotek & Barros 2019). When the Stripping site is presupposed, however, it fails to felicitously raise the QUD that is required as the antecedent.

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